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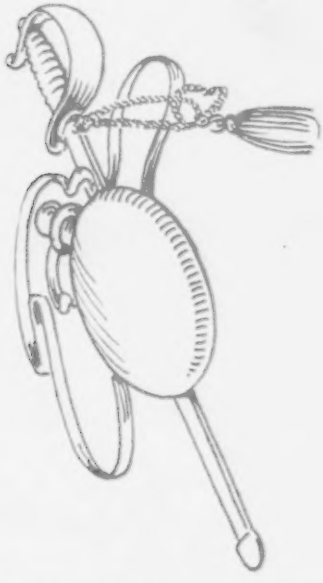
WAR AGAINST DISEASE GERMS
WHEREVER FOUND



WAR AGAINST FAKE ADVERTISING
WHEREVER FOUND

Vol. V

No. 7

7

CANADA

By ALBERT D. WATSON

Lord of the lands, beneath thy bending skies,
On field and flood, where'er our banner flies,
Thy people lift their hearts to Thee,
Their grateful voices raise:
May our Dominion ever be
A temple to thy praise.
Thy will alone
Let all enthrone;
Lord of the lands, make Canada thine own!

Amighty Love, by thy mysterious power,
In wisdom guide, with faith and freedom dower;
Be ours a nation evermore
That no oppression blights,
Where justice rules from shore to shore,
From Lakes to Northern Lights.
May love alone
For wrong atone;
Lord of the lands, make Canada thine own!

Lord of the worlds, with strong eternal hand,
Hold us in honour, truth and self-command;
The loyal heart, the constant mind
The courage to be true,
Our wide-extending Empire bind,
And all the earth renew.
Thy name be known
Through every zone;
Lord of the worlds, make all the lands thine own!

"GUARDIANS OF OUR HEALTH"

P. J. MOLONEY, M.D.,

Health Officer, District No. 5

Cornwall, Ont.

The
Public Health Journal

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TUBERCULOSIS AND ITS CONTROL

By C. S. MAHOOD, M.O.H.

Calgary, Alberta

Read before the Third Annual Congress of the Canadian Public Health Association, Regina, Sask.

TUBERCULOSIS is beyond question the most important disease with which the human race has ever had to contend. Its antiquity dates back to the earliest records accessible to man. The writings of Hippocrates, 470 to 377 B.C., contain a description of the disease so essential in all its details as to equal a work of modern excellence.

Only, however, of recent date has belief in its curability become general.

Consumption is a peculiar disease. It is as secret as it is deadly, and gives no definite sign of its onward march until, too often, it has taken firm hold and has got, to more or less extent, beyond human control.

It has, moreover, the assistance of the prevailing public ignorance, prejudice and superstition as to its nature, so much so that even at this day, the true knowledge as to its cause and its effect still remain obscured by the old fashioned fictions of former years. Of late years it has forced itself upon the notice of authorities, for the reason that we now know what its cause is, and how it spreads; how it may be cured, and how it may be prevented.

Recognition of nodules or tubercules in the lung was obtained about the middle of the seventeenth century. Upon beginning anatomic investigation and with the discovery of cavity formation and pus collections, numerous conjectures were offered as to the pathology of the disease. Inoculations were attempted in the nineteenth century, but met with no success.

In 1882, Dr. Robert Koch discovered the cause of consumption, viz.: the tubercle bacillus. This specific organism was discovered by Koch in tuberculosis tissue by means of a microscope and thus gave proof of its etiologic relation to the development of the disease in man and lower animals.

By an original method of differential staining he succeeded in isolating the tubercle bacillus and showed its presence in infected areas in all parts of the body.

"Great White Plague."

Tuberculosis has been called the Great White Plague, but it might just as well be called the Great Yellow or Black Plague, for it is the most fatal disease in Japan, and negroes are particularly susceptible to it.

The bacteria of this disease choose to ride about on the motes in the air, which can be seen in a ray of sunshine coming through a window, but we now know that exposure to sunshine kills them in seven minutes. Likewise fresh air, that is oxygen, disagrees with them; they like the shade, particularly if damp, and being heavier than air gradually sink downward, so that bread crumbs rubbed down the walls of an hospital ward collect more of them as the

floor is reached. From the floor where consumptives expectorate, millions of them rise with the first sweeping to infect by way of throat and lungs. How many also enter by being swallowed in meat and milk has not yet been settled, but enough is known to indicate where this destroyer is found, and therefore how he is to be fought.

All this knowledge is comparatively recent, but even then its victims are diminishing in number in every community in proportion to its civilization, and it is not a fanciful expectation that in another century consumption may be as uncommon in America as leprosy now is in Europe.

Koch has proved, and it is now accepted as an actual fact, that the one and only cause of consumption is a germ, that is, that the consumption germ has to enter and live and multiply in the body in order to start the disease. This then is a fact of overwhelming importance, and is the one fact around which all practical action resolves.

Since 1882, thousands of scientists have studied the life history of the tubercle bacillus, and as a result we know under what conditions it lives and thrives, and how, under other conditions, it weakens and dies.

Sunlight, as I have said, is its greatest enemy, and we cannot impress this point too highly upon the public, for a few minutes' exposure to the direct rays will kill the germs. When the germs are deposited in clean, dry and well lighted and ventilated quarters, they will soon fade and die, whereas, dark, moist and ill-ventilated places will harbor the germs for lengthened periods.

Briefly then, such is the history outside the body, and experience tells us that when it enters the human system a similar life history is maintained, then if the body into which the bacillus has gained entry is not debilitated by hereditary weakness, by sickness or worry, by overwork of body or mind, by sleeping in rooms or working in places overcrowded and in which the air is not sufficiently changed and purified by the entry of fresh air and sunlight, by unreasonable excesses, there is small likelihood, unless the exposure is continued, that the germ will live or become active in such a body, while, on the other hand, the presence of any of the above conditions, together with the presence of the germ, may lead to the development of the disease.

The relation of human and bovine tuberculosis has for several years engaged the attention of the best observers. Koch upon the discovery of the germ in 1882 promulgated the theory that human and bovine tuberculosis were identical, and that the bovine type was directly transmissable to man. There is no doubt whatever, that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis, and there also can be no doubt that, in the majority, at least, of these cases tubercle bacillus is clearly the cause of tuberculosis. A considerable amount of the disease and loss of life among the young, must be attributed to the consumption of cows' milk containing tubercle bacillus.

The presence of tubercle bacillus can be detected, and such milk ought never to be used as food. There is far less difficulty in recognizing clinically that a cow is distinctly suffering from tuberculosis, in which case she may yield tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed ought not to be used as food at all.

There are two main ways through which the germ usually finds an entrance to the body, by breathing and swallowing.

I will now refer briefly to each.

Entry of germ.

1. The means of entry of the animal germ is, as I have previously stated, through milk; we also get it through butter and cream. The stomachs of adults are not so liable to admit the germ to the system as those of children. For children there is a great danger, and while it is but right that the demand for pure milk be pressed, yet it must be remembered that the milk supplied to children may by proper pasteurization be rendered harmless as a consumptive carrier, and thus the transference of bovine bacilli to children is checked.

2. Let us now touch lightly on the transmission of tuberculosis from man to man (we will dwell more fully on this later on).

It is now universally established that, in the sputum of consumptives the tubercle bacillus (the one and only cause of the disease) abounds in countless thousands (one spit may contain enough germs to infect a whole city). When the sputum dries and is broken up by sweeping or other means, the germs are carried here and there through the air, and so may be lodged in the throat or breathed into the lungs. To realize this, let it be remembered how small these germs are. It takes thousands piled or crowded together to been seen by the naked eye; 16,000,000 put side by side would just cover an ordinary postage stamp. It will then be easily understood how such a minute body as one or two of these germs attaching themselves to dust particles may float in the air. In order to more fully understand the importance of this fact, look at the illumination path of a ray of sunlight passing through a small opening into a darkened room. The small particles of dust may be seen in such countless numbers that it can be readily understood how impossible it is to avoid breathing them, and when consumption germs, derived from the sputum of the careless consumptive are attached, it will further be seen how tuberculosis is spread and why so many authorities term it a "House Disease."

Koch's Discoveries.

The full significance of Dr. Koch's discoveries bearing on the prevention of tuberculosis has been but slowly comprehended. These discoveries were made 30 years ago, and even now a part of the medical profession and a large proportion of the public have failed to grasp its vast influence on the prosperity and happiness of the human race. The animal aspect will never be effectively handled unless under government control, and this will not be done until popular demand compels. The spread from man to man depends on knowledge and sense of responsibility in persons afflicted with tuberculosis and as previously indicated the sputum is the channel through which the germ is transferred from man to man. The filthy and dangerous habit of spitting cannot be too severely condemned; if the dictates of decency will not influence, then common humanity should guide, for there are many diseases, other than tuberculosis, conveyed through the act of spitting.

Injury of Spitting.

The injury done to many by spitting is a matter of indifference to some people. As a result, it is now contrary to law to spit on the floors in public places or in cars or on sidewalks. This law is necessary for the careless and ignorant, but it is expected that thoughtful and honest-minded people will desist from acquiring the habit. When it is absolutely necessary to spit, one can do it in a manner that people are not liable to carry it on the soles of their shoes or on long skirts into their houses. There is little doubt but that a great majority of deaths have been due to this cause.

The breath of consumptives does not contain the germ, nor can they get into the air in any way around except through the drying of his or her sputum, or by coughing without covering the mouth.

A consumptive is, therefore, not in any way dangerous to speak to, or sit with, so long as he is scrupulously clean in his habits, catches and destroys every particle of expectoration and always coughs into a paper napkin or cloth and properly disposes of it.

From these few statements one can readily see why tuberculosis is termed a communicable disease and that it can be prevented, and it is then with every assurance of success that we may enter upon the task of controlling and eventually exterminating this terrible malady from these provinces of ours.

To its death roll Canada contributes 12,000 lives annually, one-seventh the total of all deaths, and one in every three deaths between the ages of 15 and 45 are due to tuberculosis. Then add to these the accepted calculation, that, at the lowest estimate, five cases of the disease are in evidence to every death occurring.

These are, no doubt, sad facts, but where in conjunction with them, as we know, that tuberculosis is a communicable, preventable and curable disease, it is cause for wonder and pain when such numbers of otherwise kind-hearted human beings and pious Christians calmly look on and never lift a hand to assist in a fight against a huge evil, which science and experience tell us can be conquered.

Tuberculosis causes the death of one Canadian citizen every hour of the day, and one every half hour during the night, and at an age when they are most useful to their families and the community. Mildly speaking, this is serious, but when we further know that it is within our power to lessen this mortality at once by united action, and eventually to stop it, as in the plagues of the past, we cannot be otherwise than distressed at the suggestions that anyone refuses to take his or her stand in rendering such assistance as is reasonably within his or her power.

As I have stated, the fight against tuberculosis is one with which all civilized nations are now engaged; Germany, of all nations, is in the front rank. The Government and people spend money liberally and methodically in preventive measures. The Germans were the first to adopt special treatment in Sanatoria. They also improved the house treatment by improving sanitation and bettering the conditions of living. The public were educated how to live, and the spread of the disease was checked by looking after those affected. The result has been a reduction of 62 per cent. in the death rate in the last twenty years.

In the United States we find they have lost in the last four years some 650,000 citizens from this disease alone, while in the four years of the Civil War they lost about 600,000, but these from a just cause!!

But they are striving bravely against the dread monster and each year we see their death rate decreased.

On January 1st, 1905, 24 associations, 115 sanatoria and 19 tuberculosis dispensaries were in action.

On January 1st, 1910, they had 394 associations, 386 sanatoria and 215 dispensaries.

It is thus evident that our cousins to the south of us have risen to a feeling of responsibility and are determined to wipe out this dread disease.

It is now up to the Provinces of the West, to take impetus from the work being done in the East by the use of sanatoria and stamp out this great plague.

No argument is needed to substantiate the assertions that the prevention of consumption has been for years the most vital sociologic and economic problem of all civilized races. The widespread distribution of the disease among the nations, the peculiar conditions under which it is disseminated, its high rate of mortality, its demonstrable preventability and curability, all furnish convincing testimony as to the overwhelming necessity of aggressive effort toward its limitation and control.

An organized effort toward the suppression of consumption, to be effective, must take cognizance of the obligation imposed upon society to render when needed substantial assistance to sufferers of the disease.

This movement which we are undertaking for the restriction of tuberculosis must not be permitted to assume the characteristics of a "Crusade" against the individual consumptive, but rather against the conditions which make possible the existence of the scourge. There must be a campaign against tuberculosis rather than against the tuberculous. I think here it is up to every citizen to begin now and help in stamping out this great plague from this great and glorious Province. The maintenance of provincial sanatoria for partly indigent, incipient cases has been amply justified by the results so far accomplished by the provinces in the East, and especially Ontario and Quebec.

In emulation of the example set at Gravenhurst, Weston, Mt. Sanatorium, Hamilton, and Queen Alexandra, London, the pendulum of public opoinion is swinging strongly towards the erection of such institutions. Neither the charitable features nor the economic utility of sanatoria of this kind are subject to doubt even among the most skeptical. There is room, however, for honest differences of opinion as to the jurisdiction under which they should be operated, the manner of construction, location, the extent of industrial opportunities offered, and the character of the management. From a practical standpoint it matters little whether these institutions are supported by the province or by local public or private benevolence, provided the true spirit ostensibly inspiring their construction is conscientiously maintained by those in charge. This unfortunately is not always the case in public institutions on account of the pernicious influence of politics.

The selection of the site is sometimes grossly inappropriate and unnecessarily expensive. Buildings not adapted for the purpose are occasionally erected on the advice of partisan architects. Grossly incompetent medical superintendents may be selected as a result of political favor.

There may result, therefore, a great diminution in the actual usefulness of institutions endowed with almost infinite possibilities in the way of service to others. The essential considerations, I think, are that these buildings should be properly located, so designed and constructed as to afford suitable accommodations to the greatest number at a nominal expense and conducted in accordance with broadly humanitarian instincts as well as along scientific lines. To this end it is obvious that the best results can be obtained only through the active co-operation of representative medical men. It is quite impracticable to expect from a committee of the Legislature, rendering allegiance primarily to some political ring, the elaboration of modern, well sustained ideas concerning the construction and maintenance of sanatoria. Upon such a subject, I think, there must be brought to bear the enlightenment and experience of those especially engaged in medical work, and I think it nothing but right that the responsibility and supervision of such institutions should be delegated to members of the medical profession, interested in the elucidation of problems of this nature.

Through the co-operation of the Provincial and County Medical Societies, Associations for the prevention and study of tuberculosis, the various charitable organizations, and the local Health Boards, the direction of these institutions may be consigned to individuals who are perfectly competent to discharge satisfactorily the imposed trust.

It is probable that the practical efficiency of sanatoria designed for this purpose would be greatly increased if they were erected in various communities throughout the province, supported in main by local subscription, yet receiving substantial aid from the province.

Irrespective of the amount of assistance rendered by private benevolence, it is undoubtedly true that more satisfying results would accrue from the distribution of several institutions of the nature in different localities, than from the erection of a single imposing structure for indigent consumptives. It goes without saying that a single building of this description, no matter of what size, must be entirely inadequate to supply the pressing needs of the many unfortunate sufferers scattered throughout a province like this. It is also true, in spite of the insufficient accommodations, that but little stimulus would be given to the extension of further aid either through local pride or private philanthropy.

The only logical solution I can see rests with the creation of so advanced a public sentiment as will inspire the construction of numerous abodes of this character for early consumptives who have not the means of self-support.

Again, the question of affording industrial facilities to the inmates of provincial sanatoria is very properly subject to some comment, as furnishing a means of diversion to those not likely to be injured by such pursuits, there is undoubtedly much to recommend the performance of light out-of-door work, either in the fields or garden and of all kinds of handiwork while at rest on the porches.

Indoor employment must be deprecated under all circumstances. We find many of the arts and crafts, even if practised in sunny, well ventilated apartments, exercise a distinctly deleterious effect on account of the confinement, physical effort and inhalation of dust. Upon the other hand, work in the fields, garden or at the wood pile is often followed by unfortunate consequences, so in consequence of this the employment must be carefully guarded by the medical attendant, and must be allowed only as graduated exercise, and this according to the physical condition of the patient.

An economic phase of the sanatorium movement is worthy of passing mention. It appears from a practical standpoint, that beneficial results may be obtained by the construction of a greater number of tubercular dispensaries and by the more generous maintenance of anti-tuberculosis societies, than by the expenditure of extravagant sums of money for the erection of magnificent public or private sanatoria.

THE PRACTICAL APPLICATION OF THE WASSERMAN TEST IN PUBLIC HEALTH WORK

By J. H. LAIDLAW
Ottawa

Read Before the Third Annual Congress of The Canadian Public Health Association, Regina, Sask.

TO some, who are interested in public health work and who devote their best energies to the furtherance of the common weal, it might seem that the Wasserman test for syphilis does not provide any great means, which can be used generally in the prevention of that disease. Nor would it, at first sight, appear to take an important place in enabling us to better certain conditions, which prevail amongst all classes, conditions for which, in the main syphilis in responsible.

If, however, that test were used more widely, not only by physicians who are called upon to treat the sufferers, but in a routine manner, more or less by those whose duty it is to watch over the health of the community, much might be accomplished for good. By an early knowledge of the condition we could lessen in some measure the danger of contagion, and limit the ill effects in those who contract the infection. We spend great effort in trying to control such contagious diseases as scarlet fever and diphtheria and rightly so, but how neglectful we are as regards trying to eradicate, at least to some extent, syphilis, which in its far-reaching effects reacts upon the community for ill, to as great a degree as do those two diseases. For we must not consider only the personal element, the danger to which individuals are exposed by infected persons freely mixing with their fellows. But we must think upon the many lives which are cut off from usefulness, often in their prime. This disease makes many old long before nature considers them so. They become inefficient through unfitness of body and mind. As workers, they are economically of little value to themselves, and of less to the state. Many, in fact, become a charge upon the state and thus instead of being an asset to the community they are a burden.

Now syphilis is of more frequent occurrence in this country, especially of late years, than many of us realize. A Wasserman test in routine work has frequently shown up an infection when the true nature of the trouble has been overlooked. Doubtless, there are numerous cases which go unhealed for long, a menace to the community as well as threatened by all the latest ills, which seem to be the harvest of this disease, simply because no diagnosis is made. This test is the surest means we possess of recognizing syphilitic infection, applicable early and practically at any stage, with a few exceptions, even when no active signs are present to otherwise guide us. To recognize cases early, or immediately they confront us, so that treatment can be given at once and persisted in, surely this would be a sane beginning in the prevention of such wrecks as are now seen too often. And I believe if the public knew the benefits to be derived from the employment of the Wasserman reaction they would readily learn to co-operate with us in its use.

Would it not be a feasible plan to have a Wasserman done as part of the routine examination on all those who enter such institutions under government or civic control such as public hospitals and infirmaries, asylumns and penitentiaries, institutions where we are trying to check frailty and mend body, mind and soul? Many cases of this disease might be discovered in this way and while under detention, from the beginning receive the benefits of proper treatment, with a view to rendering such individuals more fit for the struggle of life in after years, to prevent more of inca-

pacity. Surely it would be well to do this in the interests of the state alone.

And the doing of a Wasserman test is not now such a difficult thing. Though it requires laboratory facilities and experienced workers and thus can be done as a routine only in centres where such are to be found, still it is quite a simple matter to have some patient's serum sent to a laboratory for examination. The procedure is easy, causing no difficulty to physician nor discomfort to patient. Ten to twenty drops of blood from a finger prick are allowed to run into a Wright's capsule. This is left for a few hours and after clotting has occurred the serum is drawn off and sealed up in another capsule. In this way the serum will keep well and can be conveniently sent to the pathologist. Whether one follows the principles of the original method, or adopts a more simple technique, such as that of Mr. Fleming of St. Mary's Hospital, London, England, or that of Dr. Emery, of King's College, London, the test can be done with a very small amount of serum. This is a practical point in that it simplifies the proceeding in the eyes of the public.

Some system then surely could be worked out by our public health bodies, whereby the early diagnosis and control of cases would obtain more than it does at present, the aim being to raise yet higher the standard of public health, to further promote economic efficiency, to lessen the number of failures among humanity and to lighten in some measure one of the state's many burdens.

THE CANKER OF UNTRUTH.

Lying.

Diagnosis—

Praise of others for actions or dispositions which we know do not deserve praise, is falsehood in its most insidious and successful form; it is the more debasing when bestowed upon persons of high rank because of their rank.—Avon.

Remedy—

When thou art obliged to speak, be sure to speak the truth! For equivocation is HALF WAY to lying, as lying, the WHOLE WAY to hell.—Penn.

HOW TORONTO CONTROLS HER MILK SUPPLY

By HOYES LLOYD, M.A.

Department of Health, Toronto

THE object of our milk campaign in Toronto is to safeguard public health. Toronto consumes about 125,000 quarts of milk per day, and this supply comes from over 2,000 dairy farms. Just to appreciate the magnitude of our problem, about 24,000 cows, which are valued at approximately $2,000,000, are required to produce this quantity. The 2,000 dairy herds are scattered over twenty counties in Ontario. Our work in protecting the milk supply begins in the cow stable on the farm and ends when the milk is delivered to the consumer. At present, through educational channels, we are endeavoring to extend our influence to the home, so that the milk which is delivered in a clean and safe condition will not be contaminated before being used. Some people may think that when a law is passed by Parliament that ends the matter and the enforcement follows as a natural consequence. Our campaign has been based upon the Ontario Milk Act, passed in 1911, and we have made use of the power it gives to enact by-laws. Many smaller municipalities are only just finding that they have full control of their milk supply through this Act.

The system of milk inspection in Toronto has been planned and put in operation by the Laboratories Division of the Department of Public Health, and is now entirely under the control of the Laboratories.

Before the Milk Act was passed, the City of Toronto took the law in its own hands and appointed two veterinary inspectors to visit the farms from which Toronto derived its supply. They had no authority outside the municipality, but nevertheless a large number of farms were inspected and the work was begun. At the present time we have four veterinary inspectors in charge of as many districts and consequently the farms are inspected more frequently than at first and more attention can be given to each individual case. At the best we can inspect each farm producing milk for sale in Toronto only twice a year, unless conditions are below the standard, and in such cases more attention is given to the premises, and more frequent inspections are made, until the conditions improve.

The veterinary inspection of dairy farms is useless unless backed up by a strong central management, so that uniform results may be obtained, and uniform records kept of all inspections. We can tell at a moment's notice the exact condition of a producer's dairy farm in Oxford County or in Prince Edward County and, by comparison with previous records, we can notice any improvement in his method of milk production or notice his failures.

Veterinary inspection alone will not produce a clean milk supply, although the farmer is often persuaded, sometimes forced, to clean the manure from his cows, to provide bedding and ventilation, to remove the filth from his stables, to provide sufficient daylight in his stable, to keep good utensils, to keep them clean, to build a separate milk-house and keep the hens out of it, and to chill his milk before shipping.

In spite of the fact that we have endeavored to help the farmers through this inspection, many of them are very independent and consider any outside interference a trespass upon their rights. If any farmer refuses to comply with our requests, and the premises are so bad that it is impossible to produce clean milk upon them, the supply is at once excluded from Toronto.

Do not think that it is always on the poor man's farm that we find unsanitary or dangerous conditions. A couple of examples will illustrate this point. The first farmer had one of the best herds of pure bred cattle in the country. The herd was

tested with tuberculin and 5 out of the 30 cattle reacted. The strange feature of this was that these 5 cows were all found to be generalized cases upon post-mortem examination.

The second herd was a very large one and the farm was one of the best equipped in Ontario. Hydro-electric power and lighting were installed and the stables were all wired for chopping machines, light, and other appliances. Although this farmer was producing milk on the large scale for the Toronto market he was neglecting the most elementary precautions. His cows were caked with filth and his electric milking machine showed no evidence of having been washed. The rubber tubes and pipes were merely soaked in lime water each day and never cleaned. Of course, it is impossible to produce clean milk under such conditions. While speaking of milking machines they require very special care, or the milk produced will be worse than that produced by hand milking. The rubber tubes must be sterilized and, as they will not stand boiling without injury to the expensive rubber parts, a weak solution of formaldehyde or chloride of lime has been recommended by some authorities for this purpose. Another source of contamination is the exhaust air line. If a pail becomes full, a surge of milk will flow into this pipe and this may flow back into the pail. The air line is usually put up permanently and cannot be taken down to be cleaned.

When perfected, the system of milk receiving stations will be an improvement. At present we have two milk receiving stations located in convenient parts of the country near a source of supply. They form a central point from which our inspectors can work and the milk can be thoroughly chilled at the station before shipping.

The greatest step we have made in the transportation of milk has been in the sealing of milk cans. These must be sealed with the initials of the producer before the cans are shipped to Toronto. This prevents tampering with the milk while on the way to Toronto, whether by rail or wagon. If the milk happens to fall below our standard in any way, we can identify the cans by the seals and the farmer is much more apt to ship clean, whole milk, when he knows that it can be readily identified.

At present the milk comes to Toronto in baggage cars on passenger trains or by express freight. No refrigerator cars are used. It would be a great advantage to have one refrigerator car on each milk carrying train coming to Toronto. There is often no railroad station accommodation and sometimes the cans have to stay in the sun while waiting for a late train. Toronto receives only a fraction of its usual supply on Sundays because none comes in by rail.

A small amount, about 10 per cent of the total, is brought from the farm to the city by wagons which carry 40 to 50 cans each. In the past this was a troublesome supply, and even now it is far from perfect. In the first place, it comes from near Toronto and as many of the producers who ship by wagon are old hands at the game, some of them cannot yet resist the temptation to use the pump, probably from force of habit. Another difficulty arises because this milk is often purchased by the wagon dealer outside of Toronto and we have difficulty in reaching the real offender. Our only remedy in this iase, as in others, is the exclusion of the unsatisfactory supply.

There is still a large quantity of milk which comes to Toronto in the summer months above the legal temperature limit of 50°F. This is partly due to the lack of transportation facilities and partly to the fact that many farmers do not chill their supply before shipping. Our inspectors have often been told that the producers have more trouble with chilled milk than with unchilled. Perhaps this trouble is caused by the incomplete chilling of dirty milk.

Upon the arrival of the milk at the retail dairy our first samples are taken. The inspector carries full equipment for sampling. Bacterial samples are taken by removing a few cubic centimetres of milk from each can with a sterile pipette as soon as the seals are cut and this milk is placed in a sterilie test-tube which is plugged with cotton. These samples are at once placed in ice water and are examined as soon as possible. A dirt test is made by filtering one pint from each can through an absorbent cotton disc. If the milk contains crude dirt, it is at once condemned as unfit for human food and poured down

the sewer. Sometimes the dirty milk is dyed red and returned to the shipper, and in this case a large red label is attached to the can. The farmer thus loses the milk, and if returned, his neighbors all see his condemned can at the station. If condemned, the farmer is notified and sent a duplicate dirt dise. All dirt dises are kept and filed in the Laboratory with full particulars. Then the inspector mixes the milk very thoroughly, either by pouring from one can to another or by stirring with a dipper and a seven ounce bottle is filled, sealed, and brought to the Laboratory for analysis.

In the Laboratory the milk is tested for butter-fat and total solids, and the bacterial count is determined in the standard manner by plating with agar medium and incubating at 37° Centigrade for 48 hours.

The bacterial count distinguishes milk which has been produced from clean cows, handled in clean utensils, and which has been properly chilled from milk which has been produced in a dirty manner, without proper facilities, and without proper care in handling, chilling or shipping. Our standard for bacterial count is 250,000 for the winter months and 500,000 for the summer months.

A complete record is kept of the offences of each shipper and a notification is sent out for every offence. If no improvement results, the unsatisfactory supply is excluded.

Our next set of samples are taken as the milk is being delivered to the consumer. These results are compared with the results for the milk as received at the dairy and we usually find that the dealer in the city does not skim nor water the milk before he sells it. This practice is of course illegal.

It is not now necessary to do much work in sampling the milk which is sold from the 1,100 stores throughout the city because this milk must be bought and sold in sealed bottles. The restaurants and hotels require considerable attention because their milk is very apt to be skimmed or watered. On the other hand, not many children get this milk supply and so it is perhaps not so important as the domestic supply from the health standpoint. The restaurant dealer who sells a full course meal for fifteen cents can hardly be expected to serve a five cent glass of milk with the meal. Many of the best restaurants in town sell low-testing milk, more through accident than design, because the milk is not mixed before being served and thus one man may receive the cream and another the skimmed milk.

Many improvements have occurred in Toronto's milk supply and a brief outline of these may be of interest.

All bottles are now sterilized with steam before being filled with milk and all milk cans are sterilized and sealed before they are returned to the farms. Our test for the sterility of these bottles and cans is most rigid. Thus the bottles cannot convey infection from house to house and the cans are sterilized under our supervision. They would probably never be sterilized if left to the farmers. The can or bottle to be tested is rinsed with 10 c. c. of sterile water and the water is poured back into the tube, the plug replaced, and the sample brought to the Laboratory. The bacterial count of this water is then taken in the usual way. If the cans or bottles are clean the bacterial count will be low. Many dairies would not properly sterilize their bottles and cans at first and quite a few were fined in the police court. At the present time we rarely find it necessary to notify a dairy because of insufficent sterilization.

The cans being returned are subjected to a thorough inspection, and rusty or dilapidated cans are condemned, because it is impossible to thoroughly clean such cans.

The equipment of the dairies has greatly improved. Many dairymen have built new premises, and many, who have not been willing to keep up to the improved standards, have gone out of business. The dairymen who have improved have been amply repaid by increased business. The dairy apparatus is more modern as shown by the improved bottle-fillers, refrigerating plants, and other equipment now in use. Sanitary piping has been installed where it was previously unknown. White suits are being worn by the employees of some dairies.

Perhaps the greatest improvement has been caused by the enforcement of the rule that all milk must be sold in sealed packages, whether bottles or cans. This has

eliminated an enormous number of sources of contamination because the milk is handled by fewer people and because it is only handled in dairies equipped for the purpose. The milk which was dipped from the can, either in the grocery store or on the wagon, was undoubtedly a grave source of danger.

The pasteurization of all milk sold in Toronto will be compulsory after June 1st of this year. At present 90 per cent. of the milk is pasteurized whereas at the beginning of the milk campaign only about 40 per cent. of the supply was pasteurized, and the process was not subject to any inspection whatever. The only milk which will be exempt is certified milk. Our experience has shown that raw milk cannot be brought to Toronto and marketed in the ordinary way without becoming grossly contaminated with bacteria. We know that many of the producers do not take the precautions necessary to produce clean milk and even when the majority are producing a good supply, one poor can may ruin a hundred good ones. Then we must consider that 30 to 50 per cent. of the cows producing Toronto's supply have Tuberculosis. The tubercle bacilli from these cows find their way into the milk through dust and through the faeces.

It has been variously estimated that from 10 to 23 per cent of tuberculosis in children owes its origin to milk and 50 per cent. of the cases of tuberculosis of the abdomen and glands of the neck in children have been found to be caused by the bovine tubercle bacillus and may therefore be attributed to milk.

It is also impossible to absolutely protect a milk supply from becoming contaminated with the specific organisms causing many other diseases such as Typhoid, Diptheria, Scarlet Fever and others and consequently the only safe procedure is to enforce the pasteurization of all milk intended for human consumption.

We do not allow flash pasteurization; in fact the word "pasteurized" is defined by law and we endeavor to see that the dairyman does not apply the word pasteurized to milk which has not been held at 140°F. to 150°F. for from twenty to thirty minutes. We check up all pasteurizers regularly by taking bacterial samples at the dairy and if the reduction is not 95 per cent. of the total number of bacteria as shown by the raw milk the plant is not passed as efficient.

The milk which has been pasteurized in this way will sour normally and will not putrefy as has often been stated.

All retail dairies and all stores must be licensed to sell milk and no licenses are issued until a permit has been granted by the Department. Thus we have direct control of all premises selling milk. Any license may be cancelled by the city council if the premises are reported unsatisfactory.

All dairies are scored as to methods of handling and quality of their supply at intervals of three months. Dairies which score 80 per cent. or better are included in our first-class list which is published in the health bulletin. In November 1912 ten dairies qualified for this list, whereas in January 1914 thirteen months later there were 48 dairies in the first class list. The total score is 100 per cent. and 20 per cent. is allowed for perfect, scientific, pasteurization.

The Laboratories make the regular analyses of certified milk and report to the Milk Commission of the Academy of Medicine.

There are about six milk depots in Toronto which receive an excellent supply of milk from the best dairy in Toronto, that of the Hospital for Sick Children. At this dairy certified milk is pasteurized in bottles and various prescriptions and modifications are prepared. We inspect these depots and their supply and are beginning to cover some institutions. At one of these institutions where a great many infants are cared for a supply of the best pasteurized milk was changed for ordinary, raw, market milk. This was not fed at once but was kept for 24 hours, so that the cream, which would contain 90 per cent of the bacteria in the whole milk, could be separated by skimming and used for feeding with barley water.

At some of the milk depots the milk supplied by the Sick Children's Hospital was kept some time before being sold. We even heard that they believed that pasteurized milk would keep for four days and so they sold their oldest milk first.

The dairyman's name is reported with every case of contagious diseases, and if

any disease becomes prevalent on one milk route or among one dairyman's customers the conditions are at once investigated. When a house is under quarantine the milkman must empty the bottle into a receptacle provided by the housekeeper or else have all bottles at the house during the quarantine. These bottles may then be removed and sterilized separately. Toronto has been free from milk epidemics of late.

After all our care the milk may be easily spoiled by lack of care after delivery. People think that milk must be delivered in the early morning, and very often the milk delivered at 3 o'clock in the summer will stand in the sunlight till 8 o'clock. We have suggested that a covered box or receptacle be provided for the milk but in this case as in many others the education of the public is necessary before anything can be done.

The necessity of keeping milk cold, covered, and in a clean place has been emphasized through the health bulletin. It should be kept below 50°F. if possible and this may be done by the use of ice, or even by wrapping the bottle in a cloth and placing the bottle and cloth in a shallow dish of water. The evaporation of the water from the cloth will keep the milk fairly cool.

For infant feeding great care must be taken with the milk and feeding bottles. The bottles should be rinsed, washed with hot soap or soda, and then boiled and the nipples should be scrubbed inside and out, before sterilizing. It is important to mix the milk thoroughly if whole milk is being fed before filling the bottles. We have found that feeding bottles with a long tube reaching to the bottom of the bottle are still sold and used in Toronto.

At present we are conducting an investigation into the condensed milk supply of Toronto.

In conclusion we have still many problems almost untouched. It was obviously impossible to exclude the milk from all tubercular cattle or there would have been a serious milk famine. We have taken the easier course first in recommending the pasteurization of all milk and when that is accomplished we may be able to improve conditions on the farm by removing or isolating tubercular cattle. At present there is no legal authority providing for the destruction of tubercular cattle although the local and Dominion Governments doubtless have the problem under consideration and in reality it belongs to the jurisdiction of the Departments of Agriculture and not to the city.

The improved quality of the milk, which amounted to the saving of $300,000.00 per year to the citizens of the city of Toronto in the first year, and is now probably near $400,000.00, the lessened quantity of dirt in the milk, and the increase in the amount of milk pasteurized all indicate progress. We do not allow the pasteurization of dirty milk and even when all milk is pasteurized we will not relax our efforts to obtain a clean product from the farm. At present about 90 per cent. of the total supply is pasteurized and by June 1st we hope to make this 100 per cent.

INTER-RELATION OF PHYSICIAN, CITIZEN AND STATE TO PUBLIC HEALTH

By J. W. McINTOSH, B.A., M.B.

President Vancouver Medical Association

Read before the Royal Sanitary Congress Vancouver, B.C., October, 1913.

HAVING been invited in the official capacity of President to represent the Vancouver Medical Association before your Sanitary Congress, and having no special training or study in Public Hygiene, I thought it wise to stick to my last, like the cobbler. and try to picture the altering view-point of the Physician towards individual and communal physical fitness. Inasmuch as it would ill-befit us to make the soundness of the body alone our final goal, we must needs consider it as an essential to that higher aim of a sound body, 'mens sana in corpore sano'' as the Romans had it, in order to develop character of a high type, before the ideal citizen and state may be evolved.

To make the statement that the Physician's view point is changing in its relationship towards Public Health is a truism, and that he is a strong factor in the moulding of lay opinion cannot be gainsaid. This may be measured by the content of the President's address of almost every important medical gathering where the keynote is on some phase of this question.

The pole star by which the True Physician steers was so plainly pointed out by Doctor Oehsner of Chicago that his words will bear repetition. In his recent presidential address to the congress of Surgeons of North America he said, ''the keynote of all inspired activity of to-day is contained in the idea of Service. All other conditions must retreat before this central, all-absorbing idea. The time when financial success, wealth, pomp, or distinction for valor in combat, were foremost in the human mind is rapidly disappearing as past history.''

How best can this service on the part of the Physician be secured to the State?

It is a well known fact that no profession, unless we except the clergy, gives more freely to the sick poor than the medical, and in no other profession does one see the constant aim of the physicians individually and collectively lead towards the reduction of sickness and mortality, thereby continuously reducing its sphere of work and source of income.

Two factors are at work, namely:

(1). The continued diminution of contagious diseases by the personal and united action of the profession and

(2). The placing more and more of departments of medicine under state or municipal control, which now includes in varied countries all the way from control of immigration inspection and deportation and care of Indians, to quarantine against contagious diseases, school inspection, and follow up clinics, government insurance against sickness and a tendency more and more to the control of hospitals.

This direction of expansion makes competition in private practice keener, and coupled with the wide-spread tendency to lodge practice and medical contracts of industrial concerns has a tendency amongst a certain stratum of the medical profession towards the turning out of shoddy and lower ethical standards. As an off set to this and partly as a result thereof, there is a growing tendency in certain countries in Europe, particularly in Germany and England towards establishing State physicians. There, every municipality now has its trained Medical Health Officer with a Diploma of Public Health. They are so well paid compared with the average practitioner in those lands that the best men are readily secured, and even the medical faculties of the Universities are finding it difficult to retain the men of talent. Added to this in Public Service are the opportunities for promotion, the recognition of merit, independence of politics, permaneney of tenure and popular respect.

The Chinese Physician was said to be remunerated only when his clientel was well —sickness came at his expense. At the recent closing exercises of Rush Medical College—Chicago, Professor Adams of McGill, Montreal, said: "The time is on us when the Physician must make his livelihood not from the cure of his patient, but from the preserving of him in health, and preventing him from falling sick"....and again, "We are, I firmly believe within measurable distance of the nationalization of the medical profession."

For you, reviews of the gradual control of contagious diseases such as smallpox, cholera, typhus fever, and plague are time worn. Likewise the progressive outspreading of the hand of man, united nationally and internationally, over food and water supplies, refuse disposal, sanitary dwellings hygiene of school children, and more recently accident and sickness, needs no emphasis in a modern Sanitary Congress.

Why do aught with physical disability? To raise a herd of good cattle? No! If good citizens, best, are made by deformity and physical suffering—if character waxes strong and beautiful in filth and disease—remove all restraint, and let us have the best. History has taught us what the survival of the fittest under those conditions is! An example? The dark age is the name which sums up the awful picture, and retardation of progress, which shone so brilliantly under the constellation of Greek cities some centuries previous.

Our physical disabilities may be roughly classified under three aspects:

1. Hereditary or those over which the individual has no control as regards his antecedents, but well in his own hand as regards his descendants.
2. Personal or self imposed.
3. Environmental, the gift of our neighbors and surroundings.

Time will not permit of an analysis of these three divisions, but we might cite some points of interest under each heading.

Group 1.

The question of Heredity from being an academic study in science has become of vast economic importance in all the industries dealing with any form of life, vegetative or animal. Its application systematically to man himself, long delayed, is daily claiming more and more attention under the science of Eugenics. The anomaly of the State giving more thought to, and spending more money in regulation of the quality of farm products than of its citizens is gradually being grasped by the advance guards in thought. Weismann's theory of the continuity of the Germ Plasm expounded in the early eighties, has held sway in the bulk of scientists' minds for a generation. This theory laid down the doctrine of the fixity of the germ plasm safely guarded in the generative glands, and handed on down from parent to offspring practically unaltered, thus preventing the transmission of acquired characteristics in the individual. While this theory has never been attacked with any great success as regards acquired individual characteristics altering the germ plasm, which is handed on down unaltered from generation to generation, still recently, experiments have been carried out which prove beyond the shadow of a doubt that the germ cells are directly influenced by their surroundings at least physiologically. As an example of this I might cite the experiments:

(1) Of MacDougall on the evening primrose. He got new varieties by the injection of chemicals into immature ovaries.

(2) Towers had well marked adverse variations from controls in beetles by exposure to cold and humidity before fertilization.

(3). Bardeen's experiments showed the direct influence of X-Rays on fish spawn before fertilization, giving definitely detrimental results in development after fertilization.

(4). Charles E. Stockard of New York as recently as October 1912 in the Archives of Internal Medicine records experiments with alcohol in guinea pigs. They were given inhalations of alcohol. There were in all fifty-five matings of alcoholized animals—and of their offspring only seven survived, of which five were runts. This when the male only was treated, as well as when both male and female.

In nine control matings there were nine living litters, with a total of seventeen individuals, all of which survived, and were large and well. That is, there were seventeen healthy offspring from nine normal matings, as compared with two healthy off-

spring from seventeen alcoholized matings, or fifty-four times better results. This shows a direct effect on the male germ cells, and he cites dire results also in humans where the semen becomes more or less bathed in alcoholic solution, causing the production of deformed off-spring.

(5). Carriere has had somewhat similar results in experiments with Tuberculin toxins.

(6). Doctor Mott of London, England in an address delivered at Baltimore last spring gave the astonishing results of his elaborate investigation of the production of insanity in alcoholics.

(7). The direct infection of human sex cells by Syphilis has been amply proved, and statistics are accumulating showing its frequency.

The well known studies in evolution have shown that in the evolutionary process there is a tendency constantly towards improvement and the retention of favorable qualities, also a tendency to eliminate unfavorable features unless individuals showing them are inbred. The Mendelian principle shows that in great measure the properties of organisms are due to the presence of distinct detachable elements, separately transmitted in heredity, and secondly that the parent cannot pass on to the offspring an element, and consequently the corresponding property, which it does not itself possess. While mercy is shown unto thousands of generations of those who keep the spirit of the law—the iniquities of the fathers are visited upon the children unto the third and fourth generation. The time is rapidly approaching when the state will not permit the indiscriminate fostering of altogether undesirable products. The price paid by the state in innocents suffering, and degenerates cared for—the by-product of over indulgence in alcohol alone—is not commensurate with the pittance paid in licenses for the privilege of its sale. If the state is not prepared to eliminate the element of private profit, the enormous cost to the state directly and indirectly should be taken into consideration in estimating the size of the license fee, which undoubtedly would be prohibitive.

2*nd Group.*

Self-Imposed Disabilities.

Just a few words as to the stress which the family physician to his patient, is placing on the personal and self-imposed cause of disease. This was well expressed by Mr. John Burns, the Minister representing the British Cabinet who addressed the recent International Congress of Physicians at London.

"The Doctor is advising as to the means of preventing disease, dissuading from habits inimical to health, preventing overwork or laziness, reporting external conditions of work or leisure needing amendment and in discovering the early symptoms of illness which if neglected may produce serious disease, and securing the removal of their cause."

In this day and generation the Family Physician is preaching the gospel of personal hygiene and sane living—the return to the simple active outdoor life, and the doctrine that dirt makes disease.

Group 3.

Environmental. This is the group where Public Hygiene and Sanitary Science have already won such victories, and many more problems are awaiting solution. The work to be done is so great and of such a nature that it can best be done under state management with an enlarged if not complete system of State Physicians.

The importance to mankind of the newly opened up field of Chemio-therapy is most admirably illustrated by Professor Paul Ehrlich in his search for "Therapia Magna Sterilisans"—radical cures of parasitic diseases by means of a single injected dose.

From his brilliant and patient researches he lays down the discovered facts that drugs in vivo act on cells to which they are fixed, and that the only agent that can fix them is chemical affinity.

In the case of successful drugs he studied out affinities for disease germs—substances which destroy them and yet have no action on the body cells—in other words, having a chemical selective action for the parasite's body only. He lays down the rule too that the drug should be efficient enough to kill all the parasites, as any survivors of the first dose may acquire immunity to the drug, in which instances it is necesary to adopt so-called double drugging.

In this work on Protozoa with Salvarsan, which represented his six hundred and sixth trial for a specific for lues, the germs

are altered by taking up the 606, chemically.

Professor Ehrlich in summing up the known results of the action of this one drug—606—said at the Congress that besides its action in controlling Syphilis in its varied forms it acted as a "Therapia Magna Sterilisans" in Yaws or Framboesia, a disease caused by a Spirochaete and a scourge in the tropics. In Surinam Hospital where they had always had an average of three hundred cases of Yaws—the hospital was closed because all but two cases were cured by a single dose to each patient. In Relapsing Fever in humans—a single does cures. One dose and sometimes the mere local application of 606 cured Vincent's Angina and spirochaetal diseases of the mucous membrane of the mouth. Tertian Malaria, Blastomycosis (Petersen), and Aleppo boil in man—the tropical breast disease of horses, and Lymphangitis Epizootica i.e. the African glanders in horses, are also all cured by a single dose.

It has a beneficial action on Malignant Anthrax (Wool-Sorter's disease), and on Glanders, and possibly erysipelas in animal experiments and occasionally in humans.

He mentioned in this category the specific action of Emetine on Amoebic Dysentery in man and of Trypan-Blue in curing Piroplasmosis (Nuttall) in cattle and dogs—the injections being done by the farmers themselves in Praetoria.

The action of Ethyl-hydrocuprein (a derivative of quinine) comes under this class also, curing pneumococcus infection of laboratory animals (Morgenroth). Of scarlet fever and the invisible germ diseases, and also of affections caused by streptococcus, staphylococcus, B. coli, typhosus, dysenteriae, and tubercle there would be a hard struggle to banish them, but Ehrlich has full confidence that they will be overcome, and predicts that in the next five years great advances would be recorded in this field.

Such work, so prolific in good results as this, cannot be properly done, save under some form of combined forces either with government help, or in University precincts.

"Viribus unitis"—join forces, that this may best be secured.

The waste places of the Earth, in the Tropics, are beginning to blossom like the rose with hives of human industry, as witness the complete transformation of former hotbeds of sickness, like Cuba with the Yellow Jack, and Panama with malarial fever. Here the application of the findings of the laboratory as to the parasitic cause of these scourges, with the means of their transmission in the bodies of infected mosquitoes, has been made useful through the application of these findings by the handmaid of Medicine in Public Health—namely the profession of Engineering.

The pioneer work of Theobald Smith in first directing attention towards insects as intermediate hosts and transmitters of disease, has led to wholesale warfare against the mosquito, the flea, the fly, the bed bug, the louse, the rat and other vermin as menaces to the health of man and beast. As Professor Cushing said "an ounce of medicine from Doctor Prevention, is better far than a pound from Doctor Cure." The destruction of decaying vegetable matter—a hot bed for breeding both carriers and parasites—links up the scavaging department of a city so closely with that of Public Health that it seems no less than stupidity not to have it in the same department as, or at least under the surveillance of, the Medical Health Officer. The example of Boston in this direction, where the fly has been banished by daily removal of manure, and the use of air-tight containers for garbage, might to advantage be closely imitated by Vancouver.

Of good omen is the welcome announcement from Ottawa, that shortly, the government will create a Public Health Department, and appoint a member of the Cabinet—a trained medical man—as Minister of Public Health. This is starting at the fountain head, giving an example which, followed by the several Provinces will permeate the whole lump till all is leavened.

This day is witnessing a great and commendable crusade against the so-called Great White Plague.

There is now a call to action which I would briefly like to accentuate, against what might be called the Modern Great Black Plague, surrounded as it is with secrecy and sin against humanity. I refer to Gonorrhoea and Syphilis. The time

has come when the mystery surrounding this plague should be dispelled, when the curtain of false modesty should be lifted—warnings given that he who runs may read, and the State take action to curb and control the same.

When statistics have shown that one-half the practice of Gynecologists is with the after effects of Gonorrhoea. When many family estrangements, and much suffering from infection of innocent wives—and when most of the cases of infantile blindness are known to be due to the same cause. When Locomotor ataxia and General Paresis of the Insane, forming a considerable percentage of the inmates of our asylums; when nearly every case of aneurism and most of the repeated abortions are known to be due to Syphilis; and when we consider the malformed children born to suffering and often fortunately to an early grave, and that 13 per cent of hospital populations as tested by a positive Wassermann, or one in eight, have Syphilis—then it is time to call a halt.

What shall we do? New York City has instituted confidential reports of cases of venereal diseases from Doctors and others.

At the Congress in London motions were unanimously passed urging upon the Government an attempt at state control of venereal diseases, as follows:

1. To institute a system of confidential notification of these diseases to a sanitary authority, whenever such notification does not already obtain.

2. To make systematic provision for the diagnosis of all cases of Syphilis not otherwise provided for.

3. To take steps towards the removal of the source.

The attitude of the Doctor is ripe, the education of the citizen is called for, and the action of the State will speedily follow. In the meantime let us take for our mottoes, the French saying, "Frapper fort et frapper vite"—hit hard and strike quickly! Also the well known military maxim, "March apart but fight combined."

THE DAWN OF A TO-MORROW

By DR. CHARLES GOLDIE SUTHERLAND

Moose Jaw, Sask.

THE report, just published, of the success that has attended the preventive measures against typhoid fever that have been adopted in the United States army is one of the most encouraging demonstrations of the results that may be obtained by the maintenance of an organized, properly equipped, and efficient medical service that the history of the world has known.

There was not one death from typhoid fever in the whole force of ninety thousand men during the year of 1913.

There were only three cases of typhoid fever; one in a soldier in China who had been innoculated with typhoid vaccine and two in the United States in recruits of four and five days service, respectively. The two recruits had not been inoculated up to the time that they were taken sick.

This record, with all the usual laboratory methods used in determining the disease available and all cases of continued fever rigidly tested by these methods, would justify one in saying that typhoid fever had practically been eliminated from the United States army.

The sweetness of this victory has been accentuated by the fact that these ninety thousand soldiers were distributed among the Phillipine Islands, Hawaii, Northern China, Panama, Alaska and various parts of the United States. The varied conditions under which these men lived made these tests all the more severe.

Twelve thousand of them lived under canvas in Texas for the greater part of the year. Five thousand were native Filipinos living in the Island.

The disappearance of the disease can be mainly attributed to the inoculation of all recruits as they enter the service.

Contrast this with the estimate that in the year 1908 the death-toll of typhoid fever in the United States was not less than thirty-five thousand and that one person in every two hundred in the total population of that country contracted typhoid fever.

Compare the record of this army of ninety thousand with a typhoid cost of almost nothing and that of the city of Newburgh, N.Y. with a population of twenty-eight thousand and a typhoid cost that was estimated by the committee that worked under the expert of the Russell Sage foundation on a social survey of their city at forty millions of dollars a year.

Try to imagine the magnificent results that would accrue if this service could be spread to the vast armies that are skilled laborers of our railroads and great industrial plants. Think of the countless millions of dollars that might be saved and the disability and suffering that might be avoided if the great hosts of men and women that are dependent on manual labor for their livelihood could receive the care and supervision that these fighting men have had. What would it mean to the prairie provinces every year if the multitudes of men that are poured in there to garner the golden harvests of the plains could have the supervision of their living conditions and the prophlactic immunization that these wards of the nation have had?

When we go back in memory to the twenty thousand cases of typhoid fever that occurred in six months among the soldiers who fought in the Spanish-American war we can commence to have some conception of the possibilities of properly organized, adequately equipped and carefully supervised federal institutions for the preservation of health.

If this remarkable achievement of medical science plus organization and proper equipment could be burned into the brains of the administrators of national, provincial and municipal affairs throughout this Dominion of ours what an impetus it would give to public health appropriations.

What a factor this could be made in the education of the great masses of the people that health is a purchaseable commodity and that investments in laboratories and expert staffs to administrate them should

be one of the first essentials of an efficient civic administration.

And we do not need to stop at the marvelous record that has been achieved in the prophylaxis of typhoid fever.

Look at the evidence of Sir William Willcocks before the house rivers and harbors committee of the United States Congress regarding the work that has been done in the elimination of the malarial mosquito along the Suez canal. He testified before this committee that at Khartoum, where the boats brought down the worst mosquitoes in the world British engineers had provided a drainage so perfect and disciplined the people along the canal to a point that now a man was fined twelve shillings for every mosquito that was seen on his place. And Ronald Ross, an English army surgeon, laid the foundation of this magnificent work when he announced in 1898 that the mosquito was the host that carried malaria from man to man by the bite of the female of one particular species. And Walter Reed, a surgeon of the United States army, aided by a little band of confreres, who sacrificed their lives in making their contribution to the protection of humanity, demonstrated that another female species were responsible for the propagation of yellow fever. The work that has been built up from their heroic efforts has made it apparent that there is no excuse for the prevalence of mosquitoes anywhere.

Take the report of the one hundred and twenty-three medical officers of London, England, made in an appeal through the columns of the public press, that the mortality in infants could be largely traced to infection transmitted by flies.

They showed that in a hot summer that favored in every way the propogation of these little pests that "never wipe their feet" the total number of deaths throughout England and Wales from diarrhoeal diseases of infants under two years of age was thirty-eight thousand, four hundred and sixty-seven while a colder and less favorable year to their hatching out cut this mortality to seven thousand, four hundred and forty-five.

That in Cairo, where there was a plague of flies in 1909, three thousand children under five years of age died from infantile enteritis in two months.

Think of the inestimable value that accrued to humanity from the existence of this organization and its carefully kept statistics that afforded such a clear interpretation of this remarkable lesson of nature.

Look at the record that has been achieved by the medical department of the United States army in Havana and in the Panama Canal Zone.

They went into this country that since 1520 has been the chief route of travel between the western coast of North and South America and Spain, and to and from the Phillipine Islands.

For centuries a constant stream of Spaniards have passed across this isthmus and the toll that they paid to yellow fever, malarial fever and dysentery has long marked this region among the nations of the old world as the plague spot par excellence of the universe.

The lives that were sacrificed in this land, too often of the very highest officials of Spain, caused wide comment through Europe.

The record of the railroad construction on that neck of land is one of horror; from 1850 to 1855, which was the time of its construction, the work had to stop several times because the laboring forces had all died or were sick. At one time the construction company imported one thousand negroes from the west coast of Africa and within six months these were all dead.

They then brought over a thousand Chinamen and within six months these had died off.

The United States sent the Fourth Infantry from eastern States to California by this route. The railroad was only completed half way so they had to march from Gorgona to Panama. From the time that they left Colon to the time that they reached San Francisco they lost eighty men out of a strength of eight hundred and ten.

During the nine years that the French canal work was at its maximum it is estimated that they lost 22,189 men from an average force of 10,200.

The first French director went to the isthmus with his wife and three children. At the end of the first six months all had died of yellow fever except himself. The superintendent of the railroad brought his

three sisters to the isthmus; within a month they had all died of yellow fever.

The Mother Superior of the sisters nursing in the hospital at Ancon had come out to the isthmus with twenty-four sisters. Within a few years twenty-one had died, the most of them of yellow fever.

An organized government service of the United States went in there and in about the same length of time they had an average force there of 33,000 men with a death loss of less than four thousand.

The French death-rate was two hundred and forty per thousand, the American rate in the early days was forty per thousand and it was latterly reduced to about seven per thousand. The report for August 1913 showed that there were over twelve thousand white American men, women and children connected with the work of the commission and that there had not been a death among them from disease in that month.

Yellow fever has been banished completely from the land. There has not been one case in Panama Canal Zone since 1906. Malaria has been reduced in incidence from eight hundred and twenty-one out of every thousand employees taking it in the course of a year to one hundred and eighty-seven in a thousand and is lowering every year.

The actual preventive measures were carried out at a cost of about three hundred and sixty-five thousand dollars a year, a per capita per annum of two dollars and fourty-four cents. The complete cost of the health force, including the hospital services, averaged a little over a million and a half a year, a per capita per annum of ten dollars.

The United States army medical service was in control of the sanitation of Havana when the connection of the mosquito and malaria was announced.

Practical methods of working out the theories and discoveries of Reed and Reed were worked out and within a year a city that had never been free from yellow fever for a hundred and fifty years before that, was entirely freed of this terrific death dealing agent. And the incidence of malaria had dropped from an average of three hundred and fifty cases a year to an average of about ten.

Not only in the fight against malaria and yellow fever have we had a demonstration of the efficacy of the organized medical service but also in the incidence of pneumonia among the negroes employed by the government in the construction work. In 1906 the mortality from this disease among these negroes was four hundred and thirteen and by taking over the supervision of the housing and feeding of this class this mortality was gradually reduced until in 1911 it had been reduced to ninety-four.

What lessons are there in this achievement to the cities, towns and villages of the United States and Canada?

If these results can be obtained in the centre of a tropical jungle that has long had the reputation of being the plague spot of the world at a little over one cent per day per capita expense what possibilities must there be in such organized, properly equipped, carefully supervised services spread over the face of this country of ours?

In their hospital services even they have taught us the very essentials of efficiency that we have long neglected to observe.

Every employee, who by reason of injury, however slight, or illness, was unable to work was sent into the hospital. The locations of these hospitals were the most pleasant and healthful that could be found; the one at Colon being on the waters edge and so situated that it received the maximum amount of breeze from the sea and the one at Ancon built around the base of a great hill. Just as soon as a patient was able to be out of bed and required but little care he was sent to the convalescent home, situated on a beautiful island in the Pacific Ocean about eighteen miles from Ancon. There were dispensaries along the line with physicians in charge and a daily passenger train each way had a hospital car attached, with stretchers for those who were too ill to sit up, to carry any patients that the doctors in the dispensaries might order in to the hospital.

When the commission took charge of the health affairs of the Isthmus they found that no provision had been made for, and no restriction put on, the lepers who were found mingling with the people under conditions most favorable for the spread of the disease. A colony was established for them.

The Ancon hospital has also provision for three hundred insane patients.

That the great commercial leaders of the world have already recognized the value of this system of medical practice is apparent in the invitation that the Chamber of Mines of Johannesburg, South Africa, has extended to Colonel William Gorgas, the leader of the Panama health forces, to visit their country. The object of this visit would be to study the sanitary conditions of the Witwatersrand mines and make suggestions for their improvement.

Epidemics of a very fatal type of pneumonia, similar to those which occurred among the negroes in Panama, occur among the blacks there and they are to be afforded the same improvements in housing, feeding and recreation that the Panama negroes were in the hope that the results will be as happy as they were in Panama.

The United Fruit Company, one of the largest plantation companies of the world, with plantations in Cuba, Panama, Central and South America, have for some years employed an efficient medical and sanitary organization.

In 1912, on the Panama division, the average death rate of the whites was twelve and the blacks 11.36 per thousand. In 1913, they had worked this down, by application of new knowledge, to 3.3 for the whites and 7.7 for the blacks. With a splendid sanitary organization, by large expenditures for suitable hospitals, drainage, houses and mosquito elimination and by periodic visits to all the plantations by physicians the health of their employees has been kept at a high average. The sanitary force is now first in the field when new plantations are opened up, and all the principles of modern sanitation in the tropics are applied as rapidly as possible.

The problems involved are difficult and the work is enormous but this great corporation has evidently found it pays abundantly.

In a report of a superintendent of an emergency relief expedition that were sent out by the Lond Island Railway to assist the Pennsylvania road in repairing the damage to the tracks and bridges done by the tremendous floods of 1913 we find another tribute of commerce to organized medicine. This party was accompanied into the flood districts by the company physician as sanitary and medical officer. His chief duties were of a preventive character, and included close supervision of the food supply and its preparation, the water supply, the camps, the bunk cars, ventilation, cleanliness and the inspection of all wells or other sources of water supply before allowing the water to be used.

Every member of this party of seventy skilled emergency repair men was in close touch with the doctor and every approaching trouble was skilfully attacked. The doctor also lent his assistance to the communities in which he happened to be stationed.

The superintendent writes that as an outcome of this careful supervision of the medical officer every man had returned home in better physical condition than when he started. And he makes the observation that he considers the presence of a medical man with an expedition of this sort absolutely essential to its efficient work.

The results of this work and these discoveries that organized medicine has given to the world and will give to the world will revolutionize social conditions in a way that few of our present generation fully realize.

The Caucasians wilted and died in the tropics under the old conditions and even if they survived their race rapidly degenerated. A force of ten thousand of them have lived in Panama for the past six years in as good health as similar people live in throughout the healthful parts of the United States.

The sanitary scientists have demonstrated that the white man and woman if they observe definite rules can live in perfectly good health in the tropics.

The tropics contain the larger area of the earth's most productive portions.

Man's labor in the tropics will bring him in many times the returns that the same amount of labor will produce in the temperate zones.

The emigration of the future will be to the tropical countries and great centres of civilization will develop in these regions.

The conditions of life that obtain there will in time allow a greater proportion of the population to turn their attention to the arts, sciences, music, letters, and all the walks of life that have a softening and civ-

ilizing tendency. This is the opinion of a recent writer who has closely studied this question.

Born into a new life as a result of the achievements of an efficient government medical service they will probably continue this system and as a result the successful of the nation will not be continually bled for the upkeep of the hospital and charity services in medicine that are more of a national necessity and economy than the military or most of the public works. Lay people will not have to devote their time and money to the care of tubercular wrecks and derelicts that are being tossed to them by an over-zealous nation rushing past silent armies of diseases and over loaded mines of crime and feeble-mindedness to protect them from phantom enemies.

Their women will not be left, in their most potent demonstrations of true patriotism, to the dangers of the ignorant accoucheur or slovenly midwife or to face death or disaster to themselves or their children ten, twenty and fifty miles from the nearest help. They will not see their own flesh and blood waste like a flower because they do not know themselves nor can they find anyone who will properly instruct them in the few simple necessities to save the life of their baby. If they cannot get to a doctor or he cannot get to them as frequently as both would like the government baby book with its fund of information and its simply printed instructions will go out to this little household and bespeak the kindly interest of the nation in its people. The government almanac will hang in every kitchen and its pages will be filled with good advice on the preservation of perfect health.

The people will co-operate in the maintenance of adequate hospital and laboratory service at convenient points all through their land. It will cost them something under ten dollars a year and they will pay it in their taxes. Sickness or accident will never plunge the faithful workers, in the commencement of their career, into seas of debt that will cripple them for all time or even strip them of their all as it has done in many parts of our glorious land of promise. Their government will guarantee the work of the service that they will maintain and the men in this service will jealously guard its reputation as they have done in government services the world over. The people will be encouraged to make use of the service. Charity will become a thing of the past in medicine—their government will have learned that they cannot afford to let sickness and disease creep into the land. Every avenue of entry will be watched. The syphilitic and the mentally deficient will be detected regardless of cost. Because the men who have become responsible for the health of the country will know that one mentally deficient derelict of humanity was a basis for a progeny that cost the United States over half a million dollars in less than a century.

And they will know that no country can carry many five thousand a year possibilities and succeed. And the men who are directing this service from time to time will be ministers of state, they will be members of the cabinet, they will have in their parliaments a committee on Public Health with whom they will confer and from whom they will receive intelligent response and sympathy in all their requests for appropriations and legislation.

They will afford every opportunity for knowledge to the student and will demand ample proof of ability before appointment to definite duties is made.

Surgery will be done by surgeons and the day will pass when a graveyard will have to be filled in the making of every surgeon. Men and women will devote themselves to one definite branch of practice and will be supplied with material and experience to make them efficient in that branch.

Venereal disease will be wiped from their history as yellow fever has been from the history of these countries of the tropics. And thousands of innocent women will be spared from a life of semi-invalidism and sterility as the result of the apathy, ignorance or carelessness of its profession.

They will realize their fond hopes of maternity and the hearing, sight and speech of countless numbers of their offspring will be saved as a result of the demonstration that their country had at its emancipation of the power and efficiency of the new medicine.

The psycho-therapeutist, the masseur, the dietitian, the physical culturist, the roentgenologist, the cystoscopist and scientists in every branch of diagnosis and ther-

apy will work hand in hand in one glorious ambition.

The sanitary scientist, the epidemiologist, the bacteriologist and the vital statistician, will train their guns on the rural and the urban communities alike and they will carry an authority that will defy the hundred and one petty influences that now exist to stultify their work.

This government service will protect these people against medical ignorance and inefficiency; it will give the people such an efficient service that the charlatan and the grafter will never find a foothold in their land. The untold millions that are poured into the coffers of the cruel and heartless wretches that wax rich on the credulity of the incurables and the dying will be saved to them and their relatives.

And their health, their prosperity and their happiness will be an object lesson to the older nations of the world and an interesting study for every student of real national economy.

From their work will come the realization of the dream of Victor Vaughan "I look forward with confidence to the time when preventable diseases will be prevented, and when curable diseases will be detected and treated while curable."

THE POISONED MIND.

Envy.

Diagnosis—

The envious man is in pain upon all occasions which ought to give him pleasure. What a wretched and apostate state is this! to be offended with excellence, and to hate a man because we approve him!—Steele.

Remedy—

Just and noble minds rejoice in other men's success, and help to augment their praise.—Penn.

ALCOHOL, ITS PLACE AND POWER

By SIR JAMES GRANT, M.D., K.C.M.G.

Ottawa

I AM deply interested in the problem of alcohol, for the safety of our country. Present stringency in money will be rectified by time and common sense. With the alcohol bill out of the question, money would flow about much easier. In Britain, Canada and the Republic, millions disappear annually, and no practical good results. Fifteen years ago, emigration from the British Isles to Canada was about 8,000 each year, since then it has increased to fully 150,000 annually. While our population is small is the time for advice and counsel. It lessens muscular power and assuredly shortens life. No tissue in the whole system is strengthened by it, but lessened in power and quality, and gradually, two important organs, the kidneys and liver, break down under its use, even in moderate quantity. Governmental action is having a powerful influence and the Minister of Militia favors the withdrawal of alcohol to increase army efficiency.

'Tis said that the Scots,
Turn out better shots,
At long distances,
Than most of the Englishmen are,
But this we all knew,
That a Scotchman could do,
Make a small piece of metal,
Go awfully far.

It is a known fact that the best marksmen avoid alcohol. Japan perforated the ships' keels of her enemies with marked skill and dexterity, and no alcohol behind the gun.

We are living in an age of general progress and advancement and should endeavor to keep up this high standard. What Bright and Cobden accomplished for corn in Britain, Hon. Sir James Whitney has quietly and gradually brought about for barley corn in Ontario. Science has established beyond doubt that those using alcohol are more liable to disease than those who do not, and that in the use of alcohol, by those contracting disease, recovery is doubtful.

The National Temperance League invited two hundred doctors from all parts of the world as their guests at the Grafton Gardens, London, prior to attending the recent Medical Congress, to consider the problem of Temperance. Sir Thomas Barlow, President, said great progress had been made in every grade of society in England. The army and navy, through the officers adopting the temperance principle, at their mess, have proved a striking example to their men. In commercial life a marked change has already taken place, particularly as employers look unfavorably upon the old habit of tippling and nipping, which unfits one for commercial responsibility. Medicated wines stab in the dark, and should be stamped out. Sir Victor Horsley voiced his opinion strongly, that the great medical congress was setting up another landmark by their united action, and who know better than medical men the place and power of alcohol. There are few influences of such wide and far-reaching effect, as arise from the use and abuse of alcohol. Alcohol and crime, alcohol and lunacy, alcohol and poverty, are closely associated. In the British Isles the total expenditure in 1908, was £161,000,000. To-day through the diversified influences at work, a most marked reduction has taken place. Example is a powerful factor, and common sense is working in that direction. Educate our children in school life against it, and the practical results will be telling. Fashion is a powerful factor, and our leaders of society are doing a good work in this direction. The struggles of everyday life so fill the pages of history, that silent efforts are of little account. A strong and vigorous organized effort is necessary to co-ordinate, and direct forces in a rational manner as to the serious problems confronting humanity. At a recent medical congress in Milan, three

hundred doctors, university professors, arraigned alcohol for its terrible effects on men and society generally. Professor Marchiafava, of Rome, stated the blood vessels of the system degenerated under its use, and particularly the heart, known as 'Beer Heart,' a fatty degeneration. He strongly advised all brain workers to abstain from alcohol when under stress of hard work, and he scouts the idea that alcohol, even in small doses, is a beneficial stimulant for brain workers. The problem of alcohol is now being more than ever investigated in a scientific, moral, and sociological point of view, and the general consensus of opinion is, 'the cup which cheers,' is the cup which kills.'

Sir Thomas Clauston, of Edinburgh, states: "Anything approaching excess in the use of alcohol was always deteriorating, and dangerous to body and mind." Mental disease and defect would diminish, if alcoholic excess did not exist, as the chief action of alcohol was always on the higher and more regulative of the mental faculties. A nervous constitution of brain, and a bad nervous heredity, certain to be followed by evil effects. Alcohol in excess caused many forms of bodily disease, and lessened the prospect of recovery. The excessive use of alcohol in the past hundred years is vastly diminished, and chiefly with the educated, and fortunately to-day, this is the experience of our Dominion.

THE FOOLISH MIND.

Pride.

Diagnosis—

A proud is a fool in fermentation.—Puller.

Remedy—

To be of noble parentage and not to be endowed with noble qualities is rather a defamation than a glory.—Anon.

A RARE PIECE OF HUMANITY

STUART WILKINS CODY

Sweaburg, Ont.

Born Nov. 27th, 1887. Died May 29th, 1914.

THERE are valiant souls who fight in comparative obscurity against great obstacles and achieve. The world hears very little about them. They are a benediction to those who immediately touch them, but their greatness is not passed on to be at once a blessing and a challenge to others. We are presenting the photo and a little bit of the life of one of earth's noble men. At 12 years of age as he was about to try the Entrance Examination into the High School, he was attacked by diphtheria and later by paralysis. Thereafter he spent his days either in bed or on a chair, carried to and fro by loving hands. But in the obscurity of his country home he wrestled with the problems of life and became splendidly informed on the topics of the day. Two of his essays we are pleased to be able to reproduce for our readers. We had planned to print them in this July issue, before we had any knowledge that his life was slowly slipping away. If this young Canadian could achieve so much, it ought to be an impossibility for such words as these to appear on the lips of any youth, "I never had a chance." Every life has its influence. We desire that through the pages of our Journal, the influence of this life may be widely extended.

AN APPRECIATION

(*From Woodstock Sentinel-Review*)

The death of Stuart Cody brings sorrow, not only to his intimate friends, but to many who knew him only slightly or by reputation. But his life was an inspiration. He was, in his own way, one of the most remarkable young men that this part of the country has produced. Handicapped, almost at the beginning of his career by a partial paralysis, which deprived him of the use of his lower limbs entirely and left him with only a restricted use of his right hand he faced the situation with the courage of a hero, and in spite of his limitations accomplished more of what really makes for life in the few short years allotted him than many men achieve in all the years of a long existence, with all the privileges that health and freedom can afford. Confined to his chair and with his right arm only partially available, he set himself to complete his education. It may be truly said of him that he was a student all the years of his life. He showed a mastery of the details of many subjects that was truly wonderful. He was in touch with most of the great questions of the day. Not only was his mind a storehouse of useful and interesting knowledge, but he possessed in a marked degree the power of expression. His contributions to the press on various subjects were characterized by a clearness and simplicity of style that made whatever he wrote both attractive and effective.

Personally he was of a most lovable disposition. There seemed no end to either his courage or his patience. He enjoyed

his life; he brought sunshine into the lives of others.

Men and women who live and die like Stuart Cody, making the very most of the opportunities that are given them, are the real heroes and heroines of the world. There are many of them; but for the most part the world knows nothing of them. The few whose privilege it is to know them are blessed by the experience.

PRISON REFORM.

By Stuart Cody.

The subject this evening is prison reform a subject which is receiving increasing attention.

Until comparatively recent years, the idea held by most was that punishment was the cure for law-breaking and the greater the punishment the more effective the cure. But little thought was given to the causes producing criminality and the treatment was simply to try to eradicate the symptoms by punishing the criminal. But that has been largely outgrown and modified with the result that first attention is given to remedying the causes and secondly to reform the criminal with the end in view that when he leaves prison he will be fitted to earn an honest living and imbued with a desire to do so.

The habitual criminal of to-day was in many cases a lad guilty perhaps of petty theft and not really bad at heart. It was therefore wrong to consider him so. He was brought into the ordinary police court to be tried by a magistrate whose mind was unfitted for what was really required, sympathetic counsel and a chance to reform. The lad's home training for good was but little and bad habits he had seen much of. Sending him to gaol was an injustice and when he was released he was worse instead of better.

But reform is steadily gaining ground. In the larger cities courts especially for the young are being established with judges of their own. Their aim is cure rather than punishment and those brought before them are generally released on a promise to attend school regularly or keep steadily employed and properly conduct themselves. Probation officers are appointed to keep in close touch with each and give a ready hand in difficulty. They report to the judge, who is consequently much better fitted than he would otherwise be to decide in the cases of those coming before him a second time. He may give them another chance or if sent to the reformatory on an indictment sentence, they will feel that trust is placed in them and every chance given for manliness to develop. Trades are taught and if located in the country there is plenty of outdoor work and fun.

More than half the children placed in the care of qualified probation officers do not need to be brought again into court. In many of the larger centres of the United States, the juvenile courts are assisted by the "Big Brother Movement." The Big Brother takes the boy off the street, invites him to his own home and acts as a friend and guardian. This personal touch and friendly advice helps many a boy over the temptations of city life. Only through the self-sacrificing and patient efforts of the probation officer can the juvenile court be made efficient.

While it is very important to have a court for young offenders it is much better to remedy the conditions favoring and creating delinquincy. Institutions like the Broadview Boy's Institute in Toronto and the Y.M.C.A. where teaching and recreation go hand in hand, are all effective agencies toward this end.

In the treatment of the adult criminal distinction is made between those who transgress the law from some immediate cause such as hunger and passion and those who are vicious and victims of criminal tendencies. The probation system has been introduced and on coming up on his first offence is often given another chance.

The indeterminate sentence is steadily gaining in favor. Its essence is that the length of time for which a prisoner shall be detained in prison shall not be fixed by the court. This principle rests on the conception that the prison is a hospital in morals and that prisoners are committed to influences to all round develop them, reveal to them their social duty and train them in habits of industry and responsibility. Many trades are taught and when they leave they are on parole for a year and suitable em-

ployment is found. This system has proven very satisfactory.

A new departure in Canada is the Prison Farm at Guelph. To it are taken from the Central Prison in Toronto those whom the authorities believe can be trusted and benefitted by the outdoor work provided there. But few attempts to escape have been made, the men feel the responsibility for the freedom afforded them and seldom betray the trust.

In the State of Oregon the honor system has now been adopted to the extent that at times more than half the total prison population is outside the prison walls without guard. Road-making has been one of the chief occupations for these honor prisoners. Of course not all convicts are presumed to have the moral stamina to respond to the honor system. There are plenty of examples of honor men who escaped or attempted to escape. They have been misjudged. But the vital fact is this —the prison officials testify that there are not so many escapes among unguarded honor men as formerly among convicts closely guarded. In the words of the Governor of Oregon "We are now pretty well able to sift out the real criminal, who should be kept locked up away from society. The other men—really not criminals at heart—should be given another chance."

One of the greatest problems is the launching of the convict successfully into the social and industrial world. As a prison official has said "Our prison honor system presumes a new state of mind on the part of the public toward the morally deficient men we are trying to cure." Give them a chance. The Volunteer Prison League organized by Mrs Ballington Booth, the wife of the present head of the Salvation Army has befriended many convicts and over 7,000 have been greatly helped and encouraged after discharge.

THE DELINQUENT BOY.

By Stuart Cody.

The topic this evening is taken by the Citizenship Department and the subject is "The Delinquent Boy."

"Juvenile delinquency" is a modern legal term, and is defined as the act of any person under sixteen who commits an offence for which he is brought before the court. It includes, legally, all under sixteen who by reason of destitution or neglect are in grave danger of committing such offence. Some of the offences may be very trivial and others more serious. As civilization develops our laws become more complex and binding and a child in the process of growth will necessarily violate many which express the mature or grown-up life of a complex civilization. It would be most unfair to treat him as a man would be treated. Some weeks ago there appeared before the Toronto Juvenile Court four or five small boys charged by a store-keeper with snow-balling those entering his store. No damage was done, still it was a distinct annoyance to both the store keeper and his customers. The judge explained the other side of the case from that seen by the boys, and let them off with a warning. It is just the growing realization that the young offender should not be considered as possessed of the mature mind of the grown-up that is busily providing children's courts in every important city.

Someone has said that the life of the individual is but the history of the race over again; in his early years he lacks the self-mastery and thoughtful regard for others' rights which distinguish the highest type of civilized man. Very few of us, no doubt, ever approach perfection. We know in our own case how we have wished for things that have been denied and even gone to the length of taking without leave. And, again, to secure our own pleasure we have thoughtlessly, or even purposely, inconvenienced others. As the child grows he learns respect for the rights of other parties, partly through rebuffs with something substantial from one in authority, occasionally, but mostly through the right kind of companionship in the home and out. Good sport does much to develop a manly spirit as no one cares for a cheat or one harboring vindictiveness.

When we consider it, the evils which society finds itself confronted with are those arising from a perverted idea of the rights and duties of citizenship. The abuses that are agitating the public to-day are due to greed. Selfishness is the spirit

behind the liquor traffic and the other evils of our time. The trade in cigarettes, so demoralizing to our youth, is due to it. And, frequently do we see the spirit of covetousness become stronger and stronger in an individual until finally it dominates the man. When this comes to pass the interests of another are viewed as of no importance and his rights are liable to be ruthlessly swept aside.

Dr. Lyman Abbott, the famous New York preacher, and of late years the editor of the Outlook, in an essay printed in that journal defined liberty as freedom to go one's way provided that same does not conflict with the freedom of others to live happy lives. Does the freedom to sell liquor enable the public to live more happily? Does it not injure the wives and children of those who drink? Take the sale of cigarettes. It blasts the chances in life of many boys and young men, and such freedom to sell is not true liberty. The causes that compel boys and girls of ten or twelve to work long hours each day, thus stunting their growth and robbing them of proper schooling, must if not remedied lead to serious trouble.

Three important causes of juvenile delinquency have been named, the drink traffic, the cigarette evil and child labor. The evils of to-day will continue to be the evils of to-morrow unless an unselfish turn is given to the training of our boys and girls. To inculcate that spirit nothing can take the place of a good home. Its influence is supremely important, whether for good or for evil. How can a boy be expected to grow up the best type of man when his father boasts of beating a neighbor in a trade or bears a grudge against someone and longs to get even?

Almost every town and city has a Y.M. C.A. open to boys entering their teens as well as to the older ones. And, perhaps, no institution is better supported by the business men than this. Almost all boys want chums of about their own age and it is important that they find the right ones. This is where institutions such as the Broadview Boys' Institute of Toronto have a wide field of work open to them. The Boy Scout Movement is doing much to promote manly ideals among our youth and its insistence on clean minds and habits of thoughtfulness toward others is very valuable, beside its other excellent features aiming to strengthen both mind and body. The Sunday Schools and Young People's Societies of the churches can do much toward bringing to the front those qualities essential to a higher standard of citizenship. They can, no doubt, make better provision for the social life of the youth round about than they are now doing, that is in many cases. Mention has been made of the influence for good of clean sport. Boys interested in baseball, foot ball, and other strenuous games are less likely to go wrong, for the games require discipline and skill in abundant measure, besides affording splendid physical exercise. By all means encourage our youth along this line.

Some may think I have at times strayed pretty far from the subject "The Delinquent Boy." It is impossible to dissociate this from other problems; they are all interwoven. The Delinquent boy is very largely the creature of circumstance and his case should be viewed in the fullest light. Give him every chance and strengthen all preventive agencies. And, finally, last but not least, let each one as an individual take a keen sympathetic interest in the welfare of our young people.

CHRONICLES "EN ROUTE"

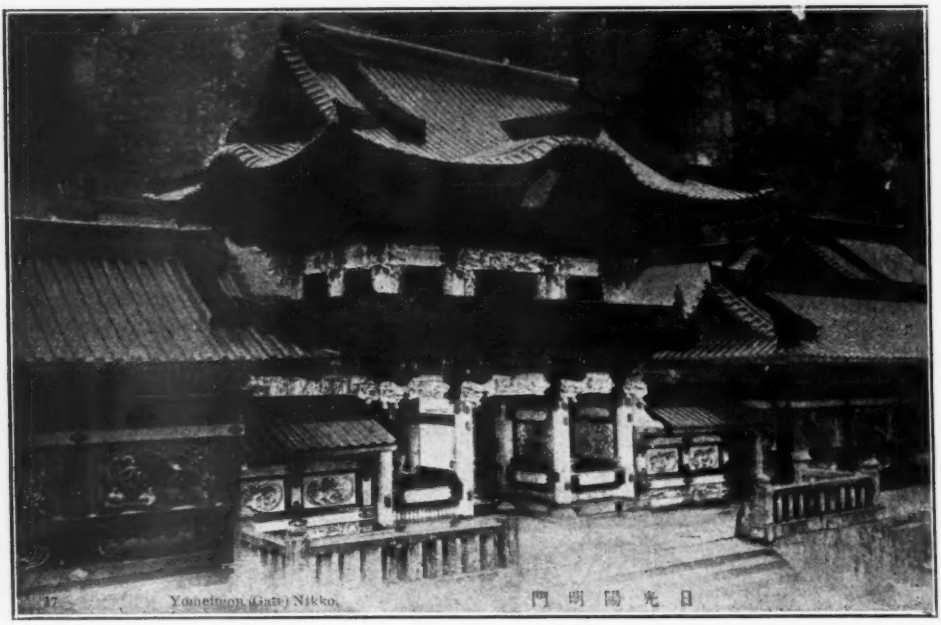
BACK IN JAPAN

By FLORENCE WITHROW, B.A.

THAT same unzephyr like typhoon, mentioned in the last paper, prevailed right back to Japan from Shanghai and detained us several hours in Nagasaki harbor, one mile from the landing. As the channel was narrow and the wind at a high velocity we had to compose ourselves in patience and wait for a less tempestuous entree. A sore trial this, since it made us miss the morning train, but the traveller must learn the gentle art of delay. Debarkation is always languid slowness long drawn out and one might as well turn it to "limpid sweetness." Certainly we had a beautiful harbor to gaze upon with varied coast line and mountain background.

We had time to reflect upon the terrible scenes enacted here two hundred years ago, on the St. Bartholomew's day of Japan, when the Jesuits and native Christians, almost to a man, were massacred by government authority.

On landing we made haste to the railway station to make night reservations, and soon learned we were among foreign people whose ways were not as our ways. We had read that the Japanese have a curious habit of laughing at most solemn and distressing moments, for instance in telling of bereavement or catastrophy and sure enough we found it so. In asking for sleeping berths we were told the ghastly fact that all were taken, in the most cheerful even mirthful manner. Not only the clerk, who delivered this tragic news laughed but the whole office staff grinned interestedly. We assured them it was no laughing matter but a grave and serious misfortune, and implored them to help us. We painted a distressing picture of our Party sitting bolt upright all night pouring anathemas upon



37 Yomeimon (Gate) Nikko. 日光陽明門

their helpless leader. We wrung our hands, gesticulated forlornly and wailed disconsolately until their laughter became maddening.

Later we learned they were not rude but just polite. The "Japs" are such queer little people in a million ways, with different standards to ours. To prove his interest the station master led us, personally, across the train yard to the diminutive sleeping car and showed how he would fix us up. It ended by all having berths or space to stretch at full length. As conductress we settled down in the next coach where the Japanese tucked themselves up on crossed knees. The night was filled with amusement between our half hour nods.

First of all a courteous attendant brought woven straw sandals for each person. These must be used in the car, as always indoors, instead of the noisy street clogs. The women curled up with their faces to the window. As they drowsed off their wadded heads fell against the pane. Many of the men sat tailor fashion on top of the seats. Even in day trains this is a common posture, at least for the women, so accustomed are they to sitting flat on the floor. Although struggling bravely to affect Occidental ways, their legs ache if they sit long as we do.

In the coach were many interesting types of natives. Two little Red Cross nurses propped each other in the corner opposite. We invited them to share our face cream and camphor. At first they were "gigglingly" shy, but finally, by our demonstrating the "beautifier's" use, they anointed themselves to our satisfaction. In appearance they were ludierous, their navy blue uniforms being an attempt at European but comically ill-fitting, with full gathered leg of mutton sleeve. The tiny bonnet was the absurdest feature of all, perched on top of a huge pompadour. At the back it extended into mid air, with no "bob" to fill the gap. However, we need not laugh at these little "Japs" for they are taking on Western ways faster than we can fashion them. The entire army, all government officials, civil service and railway employees are obliged to wear European dress. Hosts of others in business and trade do the same, for kimona sleeves are not safe to work in, especially near machinery, and trousers and coats are on the whole more utilitarian if less picturesque.

At Shimoneseki we saw evidences of the recent tornado in partially sunk junks with their bamboo ribbed sails badly torn. We breakfasted in the hotel and had our first experience of "proprietory" politeness. The manager and all the attendants bowed ceremoniously on our arrival and again on our departure. Just prior to saluting us the full line bowed out twenty Koreans in "fly trap" hats, who passed in single file through the door. This meant a separate and individual bow to each. What loads of time is spent by these over polite Orientals in this bowing business, yet we rather like it. At Kyoto, where we stayed a week, our necks ached through bowing each day not only to the hotel staff but to a dozen shop representatives, who attend their hotel show rooms. These fellows are most obsequious and ubiquitous. One cannot escape them. However, courtesy, and lack of insistence is a characteristic of the average Japanese shop-keeper.

Our visit to the sacred Island of Myajima was a supreme delight, for it is an enchanted isle. Its sylvan beauty cannot be surpassed. The ancient Shinto Temples, with the colossal red Torii still standing in the sea, form even yet a great national shrine. Through the groves and by the rivulets wander the sacred deer.

Our first acquaintance with a real Japanese house was here where we slept in one of the pretty bungalows with paper walls and fibre screen partitions which did not reach the ceiling. The four sides of our room could slide back, and a narrow balcony ran around three sides of the house. From our comfortable couch we could watch a rushing brook and hear its gentle babble. We were entertained next morning by a visit from a half dozen Pilgrim women, who espied the foreign furniture and ventured an unceremonious call while we were yet in bed. These inquisitive strollers felt the mattress and springs and were greatly amused at our bounding up and down to show the "springiness." The furnishing was all so different to their floor beds and tiny toilette cabinets. To be sure a European bedroom suite is incongruous in a dainty paper house with sweet scented matting floors.

We particularly enjoyed our first train journeys—and we went by rail, almost from one end of the Kingdom to the other. It was April and the air was fresh with the breath of spring while cherry bloom and other blossoms lent their fragrance. The terraced mountains, the patch-work fields, the high dyke-like roads were a constant source of interest. The scenic beauty of Japan is of no mean order. Japanese landscape like Japanese art has an indescribable aesthetic charm. Every inch is hand-labored and the same subtle value of hand wrought work is noticeable as appears in their arts and crafts. The wheat, barley and rice are planted in tufts as well as rows and richer, greener growth the eye has never seen. The fields are wonderfully "polyceromatic,"—green barley, pink clover, white buckwheat, yellow mustard, the latter a veritable field of cloth of gold. Each tiny section has no fence but is separated from the next by low mud ridges. The farm roofs are thickly thatched and against the walls are fruit trees, trellised like grape vines, while beautiful strange leafed trees dot the landscape. As a splendid background runs a chain of mountains up whose slopes are tea shrubs of varying green. Hedges and bamboo fences encircle quaint villages. Everything considered, we would place Japan's rural scenery next in beauty to England's for both have the same charm of detail and finish.

We could linger in attempts to describe the loveliness of nature in the Flower Kingdom, but this picturesque land has so many other features we must hasten on. In hand crafts it surely leads the world. We have yet to learn of the country which produces such variety of hand wrought articles —and so many objects of true art value. Japanese manual skill is proverbial. This fact adds to the tourist's interest. Here is a shopping Paradise for ladies. The largest manufacturing centre is Kyoto. On first acquaintance it is not prepossessing, but after a week's sojourn one marvels at its manifold interests and industries. In silks alone the product is enormous. Personally we think Japanese silks and crepes are more desirable than Chinese, which are coarser and narrower. In embroidery we grant the Chinese is finer and more intricate.

As to delicately printed crepes the Japanese are "visions of loveliness." There is never a tourist lady but succumbs to buying a kimona or two, all lovely with cherry blossoms or with flocks of white-winged heron. Many of the patterns are like water color pictures. Indeed an artist goes into ecstasy over Japanese design for the aesthetic is so largely embodied. This is eminently true in the best class of cloisonne, satsuma, lacquer, damascene, bronze, brass and carved wood work. Of course there are atrocities in coarser wares, but alas! these are entirely for foreign trade. Native art is absolutely averse to the patterns which supposedly decorate much of this stuff. Monstrous roses and fantastic shapes, such as we see in some Japanese porcelaines are only for gaudy western taste.

It was interesting to watch the skilful fashioning of various objects. We found one old potter at his wheel who, for our delectation, quickly moulded a half dozen different shapes. We marvelled how, without any measurement, his trained eye could revolve the wheel so precisely as to make a tea pot lid exactly fit the tea pot or a cup fit into a grooved saucer. The decorating of the Satsuma is so exquisite and tedious we exclaimed with surprise and delight. Months are devoted to the painting of one piece. Antique designs are now in greatest favor. A general return to things of old Nippon is manifest in all the arts, and wisely so.

Again did we exclaim upon visiting cloisonne factories where we saw demonstrated the twelve stages of the work and examined the thin gold, silver and copper wires which are first filigreed upon the metal surface before the enamels are put in. The scaley fish effects are made by carving upon the copper background before applying the transparent enamels. Damascene is somewhat the same process being gossomer threads of gold hammered into ebonized steel.

Our greatest amazement was to see the twenty precesses required for fine Lacquer —applying, rubbing off and polishing until a perfect surface results. No longer do we discount lacquer objects of high class. Some of the work on the Temples, especially those at Nikko costs $5 a square foot for black and red lacquer, and $50 a square foot for gold, and certain panels have tak-

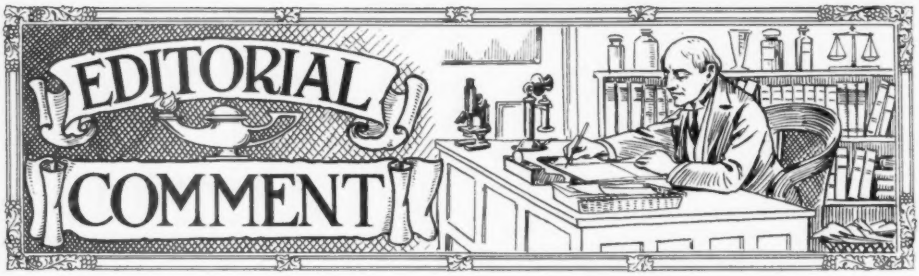
en one day per inch to carve and finish. Wood carvings, inlaid box and cabinet making, bamboo and wicker work basket weaving and kindred crafts, engaged our attention. In fact we were almost surfeited and began to wonder why machinery is ever used when human dactyls are so skillful.

Apart from industries Kyoto is noted for the largest Buddhist Temples in the world. Read Kipling's description for we can neither explain nor describe them. They are totally different to anything our eye ever beheld or our mind conceived. We have seen Gothic Cathedrals and Mohammedan Mosques of supreme majesty and grandeur but we never dreamed that any wooden structure be it ever so vast, such as a Buddhist Temple, could, in any degree, approach a like dignity and magnificence. However, it is a fact, that some of these stupendous structures are most noble and impressive. Their huge polished pillars, gigantic beams and colossal roofs are marvellous in size and in ornamental treatment. In fact, many features of Buddhist Temples are architecturally grand and there is as perfect symmetry and harmony as in our Christian Gothic. They are rich in deeply cut wood carving and feather-like tracery and in construction are intricate and complicated, oftentimes the great beams are jointed and keyed together with absolutely no metal bolting. Both in temples and in domestic architecture Japanese carpentry is unsurpassed. Since Noah we fancy, there have never been such skilful carpenters.

There is richness in the temple furnishing, due to burnished gilding and fine lacquer, which is far from gaudy. To be sure in the poorer shrines much is tawdry. Our descriptions apply to the two great temples of the two chief sects. We were fortunate in witnessing a spectacular ceremonial of the one sect whose highest priest is a member of the Imperial Family, he having married the late Mikado's sister. Immense wealth attaches to this order. One hundred and twenty priests marched in gorgeous array and seated themselves on the floor before black lacquer desks, one foot high, which were handsomely decorated with ornamental brass. Their robes were of brilliant brocades in purple, green, yellow and blue—no two alike—over the left shoulder was draped yards of cloth of gold in variagated patterns, fastened with heavy silken tassels. The fabrics were sumptuous and costly. On the shorn head was a most extraordinary hat, suggesting a long and narrow card board box covered with folded tinsel fibre. It was stiff and "home made" looking and did not match the elegance of the robes. On Christian as well as on pagan priestly pates have we seen many astonishing erections. Vagaries of taste display themselves most readily in head gear, nor is this eccentricity confined to sacerdotal styles. Being a woman and submitting to modern millinery dare we be critical.

Owing to the death of the Dowager Empress the Imperial Palaces were closed. In preparation for the Autumn coronation work had already begun in the ancient Kyoto Palace, but this event is now postponed another two years—after the rice harvest, according to Shinto tradition. This coronation will be august and magnificent. Old customs and antique costumes will be revived. It is gratifying to know that Japan is realizing the worth of some of her own old ways. The pendulim that swung so far toward things foreign is now striking a wise balance and retaining valuable features of pure Japanese civilization.

This fact will characterize the burial of the late Empress. Elaborate preparations are under way and evidences of deepest mourning are manifest. The Emperor's Mausoleum is a simple impressive structure built entirely in the ancient style with pure Shinto Torii. The body rests beneath a colossal mound of stones, set high on a hill side. The forest trees form a fitting background, while granite walls and flights of steps lead to the vast dome of stones. The whole is in majestic proportion. There is entire lack of imposing architecture, yet how appropriate in noble simplicity, and how worthy an Emperor's tomb is this mountain Mausoleum. The nation's devotion to the Emperor is deep rooted and abiding. According to tradition he is a direct descendant of the Shinto gods. His tomb is a national shrine and each worshipper bows in devout reverence. As a tribute to the dead Empress practically every man is wearing a mourning band. Since our next description is that of the cherry blossom festival and the Geisha dance, rather than turn too suddenly from grave to gay we shall reserve this cherry dance for next month's issue.



Our plans for this month were knocked all awry when we saw the following article in last week's issue of the Globe. We are printing it here because we want you to read it—every word of it—and because we want to point out to Mr. Peter McArthur and others that the ideals of **The Canadian Public Health Association,** and its exponent, **The Public Health Journal,** soar just as high, and extend just as wide as any which he may have dreamed. We would be delighted if all dreamers of such dreams would link up with us. We are all going the same way, and the more company we have the stronger will our influence be. Now for the article:

Did I ever tell you that in the course of a wandering and care-free existence I have interviewed what the old copy-books would describe as "many men of many minds"? Well, it is a fact. With a note-book, a sharp lead pencil, a mild manner and a list of questions prepared by the managing editor, I have interviewed statesmen, Prime Ministers, high financiers, sneak thieves, murderers, poets, ambassadors and all the "human warious" that drift into the newspaper limelight. Also I have done considerable interviewing "on my own hook." And the sum of the whole matter is that in no normal interview did I ever get anything that was worth printing, even though it was usually printed with a scare-head. But occasionally, when interviewing on my own hook, if I chanced to meet a great man informally in the steam room of a Turkish bath over some similar place, I got an interview of vital importance. Now, all this is merely a preliminary to an interview that I propose to set forth for your edification.

Since taking to farming I have done very little interviewing, and this interview was entirely accidental. I had no intention of doing it, and my victim had no intention of talking for publication. No one will be more surprised than he will be on seeing this in print, but if he objects to what I am going to report he can have my space for next week to set me right and dress me down. In a moment of enthusiasm he flashed on me a dream so magnificent that I do not think I would be fair to him or to his fellow-countrymen if I did not betray his confidence and spread it forth for the consideration of all men. Unfortunately, I lack the prompting of the managing editor in describing the man I have involuntarily interviewed. I have an impression that Dr. H. A. McCallum, of London, is chief of the medical staff of the Western University, President of the Canadian Medical Association or some similar body, and a medical practitioner of international repute. All I am sure of is that physically he is a big man,

"With a breast like a bird and a back like a door,"

and that spiritually his soul needs the great outdoors to turn round in. Also, I know from bitter experience that he can concoct a tonic that, as Bill Nye said, "looks like stump-water and tastes likes the juice of future punishment."

Now for the dream. I cannot undertake to give it in his glowing words, but I think I can give you the substance of it. It is his dream to develop, in connection with the Western University, a Department of Public Health that will make every member of the community a soldier in what will yet be a world-wide war against disease. He would have the youngest child taught to dread and avoid disease as the burnt child dreads the fire. By making known to all the importance of preventive medicine—which is as simple as cleanliness—he would rid the race of the scourges that now take such fearful toll of human life and vitality. He would free the world from disease just as our educators would rid it of ignorance. Ignorance of the laws of health is surely as deplorable as ignorance of the means of culture or the fundamental facts of business. Everyone agrees that health is the first essential to a successful career. We all recognize the importance of health in our live stock. No farmer, if he can help it, will have unhealthy cattle, and even if he would the Government will not allow such carelessness. Why should not the farmer and the Government take an equal interest in the health of human beings who are of infinitely more importance than the cattle on a thousand hills?

At the present time people seem to regard the health of their families as a gift of God, while the health of their flocks is the result of their own care. In the light of modern science this is wildly absurd. Some of the most careful investigators are now convinced that the diseases of men and animals have a common origin. Indeed it has been asserted that possibly all diseases are due to one germ that is differently modified by different environments. Tuberculosis, pneumonia, spinal meningitis, blood-poisoning—in short, all the diseases of Milton's vision may be due to one germ.—

"All maladies
Of ghastly spasm, or racking torture, qualms
Of heartsick agony, all feverous kinds,
Convulsions, epilepsies, fierce catarrhs
Intestine stone and ulcer, colic pangs,
Demoniac phyrensy, moping melancholy,
And moon-struck madness, pining atrophy,
Marasmus and wide-wasting pestilence.
Dropsies and asthmas, and joint racking
rheums."

And the good doctor would teach us to avoid them all as naturally as we avoid trying to eat soup with a fork or making two and two make five when selling eggs at the store. Surely if this dream is possible of realization he should have no trouble in getting all the force of the people and the Government behind him.

In order to understand the scope of the New Public Health you must exercise your imagination. The ambition of our forefathers was to have a "sane mind in a healthy body." Our modern leaders of medicine would have a sane mind in a healthy nation. Instead of leaving the fight for health to individuals who combat disease in their own bodies they would have disease combated by the State. Instead of being merely healers of the sick, doctors would be teachers of health. The aim of the medical fraternity would be to keep the nation healthy, rather than to look after the health of a few patients who entrusted themselves to their care. This would mean a sort of public ownership of good health. The child of the future would be entitled to good health, as well as to free education. Citizens would be born free and healthy, and then they would be in a position to struggle for the equality which it is impossible to establish by law. Just as we unite to repel invaders of our country we would unite to repel those far more dangerous invaders of the body—the disease germs. Here is a real war for the good of humanity that should serve as a moral equivalent of the bloody and senseless wars for which we are constantly preparing. The amount spent on our militia for one year would finance this war for national health for many years. In fact, the interest on one year's militia appropriations would provide funds beyond the dreams of the group of enthusiasts for the public good who are trying to introduce the New Public Health.

From hearing Dr. McCallum talk I feel that there is a great newspaper story in the history of this new theory of medical practice. The few questions I asked did not bring out the names of the men with whom it originated, or the struggles, disappointments and triumphs they have had during the progress they have already made. What roused my interest was the magnificent dream back of the movement. Why should not the State take charge of the public health as well as of education and justice? Health concerns all of us just as much as education and justice. At the present time there are no adequate safeguards of the health of the individual, even though it is just as important to him as the safety of his property. In a recent symposium in which a great many business men gave a list of the things necessary to success in business they all agreed on only one point. They all agreed that in order to succeed in life a man must have health. This being the case, all the wideawake business men of the country should be ready to support this scheme for public health. As I understand it, we would not be more in the hands of the doctors than we are now, but less. Disease would be combated by united action, so that under all ordinary circumstances we would be immune. The advocates of the New Public Health are not dreamers who imagine that all disease can be stamped out, but they reason that it can be held in check on all its frontiers. In the development of the race we have already become immune to many germs —perhaps I should say to many modifications of the one malefic germ—and there is no reason why the organized intelligence of the community should not make us immune to others or at least enable us to resist them successfully. Much has been done for public health by the enforcement of laws of cleanliness, but that is not enough. Investigators have found that clean and cultured people may distribute diseases just as freely as the unfortunate dwellers in the slums. At the present time there is a woeful ignorance of the causes of infection, but all this could be remedied by the scheme of education that is now in the forming.

They may not be able to accomplish the miracle suggested by Bob Ingersoll of "making good health catching instead of disease," but they can do all that is humanly possible to insure good health to every citizen. We often hear praise of the Chinese system by which the doctor is paid when his patients are healthy and fined when they are sick, but this new scheme seems to me to be much better and more practical. I most earnestly commend a careful consideration of it to the press, that greatest agent of publicity and education. Let this new development of medical work be given a careful investigation and if it is as worthy of support as it seems when described by an eloquent enthusiast like Dr. McCallum, let us all give it our support. I am glad I heard him talk about it in a social hour when he was pouring out without reserve exactly what was in his mind. If I had gone to him for a formal interview he would probably have been more guarded in his assertions and his statements would not have taken hold of my imagination. But if I have misreported him he can come back at me in this column, and then we can have the new movement adequately stated. It seems to me to be something that should be set forth so that it can be understood by every citizen of the country. If good health can be made one of the rights of the individual we want to know all about it.

The Great Consulting Room of a Wise Man is a Library—Dawson.

Conducted by

O. S. Jay.

Induced Cell-Reproduction in Amoebae.

This little book of 112 pages is the fourth volume of the John Howard McFadden Researches. The experiments described in the papers therein contained were begun in January, 1913, and they form part of the general researches into the causation of cancer and other forms of cell-proliferation. These researches are said to include a working hypothesis that normal cell-production and benign tumors are caused by certain chemical agents, called auxetics, such as tyrosin, creatin, etc.; and that cancerous tumors are caused by a mixture of auxetics with another group of substances, called kinetics or augmentors, such as choline and cadaverine. In the present volume the immediate cancer problem is not touched on, but this deals almost entirely with amoebae, the object being to determine, if possible, the way in which auxetics and kinetics are capable of exciting reproduction in these cells and how they are produced in nature so as to have this action. The book is splendidly illustrated and is a distinct contribution to this great and important subject.

RESEARCHES INTO INDUCED CELL-REPRODUCTION IN AMOEBAE—By John Westray Cropper, M.B., M.Sc., Liverpool, M.R.C.S., Eng., L.R.C.P., Lond., and Aubrey Howard Drew——With illustrations—The John Howard Researches—Vol. IV.—London, John Murray, Albermarle Street W., April, 1914—Price 5 shillings net.

Mental Deficiency.

This is the second edition of a very valuable work. It is dedicated to "all persons of sound mind who are interested in the welfare of their less fortunate fellow-creatures." Within the last decade this unfortunate class of mental deficients has been brought more particularly before the public gaze, to the end that legislation may be enacted, looking first, to help for them and, secondly, to help for the citizens of the commonwealth against them. As more knowledge of these unfortunate people is gained, greater steps will be taken towards a solution of the problem. Of course, it is to the medical profession and the psychologist that we must look for our scientific knowledge, but it will be a great gain if legislators would possess themselves of such a volume as this and make a careful study of what is now crying for solution. Tredgold has long ago proven its worth. There is no better book on this subject extant.

MENTAL DEFICIENCY (AMENTIA)—By A. F. Tredgold, L.R.C.P., Lond. M.R.C.S., Eng., Consulting Physician to the National Association for the Feeble-Minded and to the Littleton Home for Defective Children; Lecturer at the Medical Graduates College, London; formerly Medical Expert to the Royal Commission on the Feeble-Minded; Research Scholar in Insanity and Neuropathology of the London County Council and assistant in the Glaybury Pathological Laboratory; late Resident Clinical Assistant in the Northumberland County Asylum, etc.—Second Edition—Revised and enlarged—Illustrated—Toronto—The MacMillan Company of Canada, Limited, 1914.

The Hypodermic Syringe.

We have often wondered what the physician did without the little syringe before its discovery less than a century ago. It is now such a common instrument, reposing, ready for use in every doctor's pocket, that it seems impossible that it was not always so conveniently at hand. First of all it was used solely for the injection of morphine for the relief of pain, and we can recall patients who even to-day believe that the wee syringe is synomonous with such medication. But it would take a fair amount of our valuable space to enumerate the many drugs which are to-day used by means of the hypodermic syringe. The author has gathered into a book of over 300 pages, the many uses of the instrument, and medical men will find it very interesting and valuable. The volume is packed with references to articles, authors and books. There is not an illustration from cover to cover which seems to us a defect.

THE HYPODERMIC SYRINGE—By George L. Servoss, M.D., Editor Nevada Medicine; Member of the Nevada State Medical Association; Fellow of the American Medical Association—317 pages—Cloth—Price $2.00—Physicians' Drug News Co., Publishers, Newark, N.J.

Astrology in Medicine.

This is a delightful little volume on a subject which ought to awaken all the romance of which we are capable. Dr. Mercier has packed into these three lectures a vast amount of information. He has also led us back to a very early period, so early that it antecedes all written records. He reminds us that a knowledge of Astrology was a necessary part of all educated men; that Astrological terms form to this day an integral part of every European language. We still consider; we still find persons and things in opposition; some persons are still fortunate enough to be born under a lucky star; we still retain the names of Saturday, Sunday and Monday. There is a fund of riches to draw upon in these hundred pages. Get the book and relate our modern, scientific, medicine to that of the Fathers of the early days.

ASTROLOGY IN MEDICINE—The Fitzpatrick Lectures delivered before the Royal College of Physicians, on Nov. 6th and 11th, 1913, with addendum on Saints and Signs—By Charles Arthur Mercier, M.D., Fellow of the College—The MacMillan Company of Canada, Ltd., Toronto—Price, 60 cents.

Book Reviews.

The following books have been received, and the courtesy of the publishers in sending them is hereby acknowledged. Reviews will be mad of thse volumes from time to time.

ASTROLOGY IN MEDICINE—The Fitzpatrick Lectures delivered before the Royal College of Physicians on November 6 and 11, 1913, with addendum on Saints and Signs—By Charles Arthur Mercier, M.D., Fellow of the College. The MacMillan Company, of Canada, Ltd., Toronto. Price 60c.

THE CARE AND FEEDING OF CHILDREN—By John Lovett Morse, M.D.—Harvard Health Talks—Cambridge—Harvard University Press. 1914. Price 50 cents.

STAMMERING AND COGNATE DEFECTS OF SPEECH—By C. S. Bluemel—Vol. 1—The Psychology of Stammering. Vol. 2—Contemporaneous Systems of Treating Stammering, Their Possibilities and Limitations—New York—G. E. Stechert and Company—London—Leipzig—Paris. Price, 2 vols., $5.00.

CANADIAN POETS

ALMA FRANCES McCOLLUM

[*"Where Sings the Whippoorwill" is for its beauty a strong little etching.*

"The Angel's Kiss" is distinctly high class, and I think Miss McCollum excels in this key.

"Beyond the Hill" is about the finest poem in the book.

"The Silent Singer" is perfect and a beautiful tribute.

"Love" is grand and Miss McCollum has the true conception.

"Little Nellie's Pa" is so good that Whitcomb Riley might have been proud to sign it.

"On the whole my judgment tells me the volume is a valuable addition to our Canadian literature. The only faults are minor ones, and consistent with the writer's youth; and who would have it otherwise? But there is no mawkishness—easy to see what a lovely character is our jeune fille. More power to her!"—Dr. Wm. H. Drummond, author of "The Habitant," in a letter to a friend.]

ALMA Frances McCollum was born in a rural village, near the town of Chatham, Ontario, on the 7th of December, 1879. She was the youngest of a family of six, and the most talented. While she was still a child, her father, a well known local merchant, died, and the family shortly after moved to Peterboro, Ont. In this city the mother and three daughters continued to reside until the autumn of 1905, when they sold their Peterboro home and purchased one on Delaware Ave., Toronto.

Miss Alma had been frail in health for several years before her short residence in Toronto. In the spring of 1900 she spent several weeks in a sanitarium at Clifton Springs, where she was very near death;

and it was while her life was almost despaired of there, that she experienced the strange visitation expressed in that beautiful sonnet, "The Angel of the Sombre Cowl."

It was during her convalescence at Clifton Springs, that she met the young Canadian physician, now resident in London, England, to whom she afterwards became engaged, and who inspired the exquisite love-lyrics, "My Life-Harp" and "The Kissing-Gate."

Probably the chief object in moving to Toronto was to enable Miss Alma to take lectures in English Literature at University College; but after a few weeks' attendance, her health so failed that she had to discontinue her studies.

Her physician believed she had incipient appendicitis and persuaded her to undergo an operation. This proved fatal, because of the effect, apparently, of the anesthetic on a naturally weak heart, and this gifted.lovely girl passed away on the 21st of March, 1906.

Miss McCollum inherited her poetical talent from her father, who, like the elder Lampman, wrote good verse. She began to make rhmyes in early life, and while still in her 'teens had written most of the poems which appeared in "Flower Lefends and Others Poems" (William Briggs) in 1902. The pretty cover design was sketched by herself. Besides these accomplishments she sang sweetly, accompanying herself on a guitar, and had a rare gift of mimicry and recitation. To see and hear her recite her own poems was a pleasure never to be forgotten; her lovely, expressive face, her graceful movements, her patrician voice and manners, made up an indescribable charm of personality.

To judge of her literary work fairly, the critic must remember her tender years and inexperience of life. What she has given to Canadian Literature, however, could ill be spared.

Miss McCollum's parents were both born and brought up in Ireland; and she was a niece of the late Rev. J. H. McCollum of Toronto. Her mother and two sisters are now residing on the Pacific Coast, in the State of Washington, and another sister, Mrs. Charles Dusenberry, is a resident of New York State.

LEGEND OF THE VALLEY LILIES

Pearly bells, pearly bells, tinkle a melody,
Tell to the moonbeams, as pure as yourselves;
Murmur it merrily, tell of the revelry,
Sing of the days of the fairies and elves.

Someone has told me that this is the song you sing,
Whispered so softly that wind-sighs seem loud,—
There is a valley, all quiet and beautiful,
Hidden from earth cares, where fairy folk crowd.

There, when the moon is round, all the gay dancers are;
Each tripping fairy has bells wrought in pearl;
Golden the tiny tongues, making soft melody,
Tossed by the dainty hands' swift twist and twirl.

After the merriment, all the gay revellers
Sit to a feast of white honey and dew;
Once while they lingered there swiftly the Dawn arose,
Startling the dancers, who far away flew.

Bells of pearl, bells of pearl, all were forgotten quite;
Scattered they lay where they fell from each hand;
Then the sun, kissing them, changed them to flower-bells,
Strung them on grass-blades, and bade them to stand.

Silent the golden tongues; no more the music rang,
Till a soft perfume, as sweet as the sound,
Stole forth at even-tide, when 'neath the silver moon

Lightly the fairies came tripping around.
Quick as a twinkling wink all the wee merry folk
Drew off their mantles of shimmering green;
Folded them closely around the sweet pearly bells
Hid them so snugly they scarce could be seen.

Still you can find them tucked safe in the sheeny folds,
Sheltered and hidden from sunbeams' strong light;
Often the same tinkling fairy tunes ring again,
When the sweet south wind fans softly at night.

Listen in silence lone,—if the long day has passed,
Leaving your heart without sin-stain of wrong,—
Chiming distinctly in low tinkling melody,
You will hear clearly the pearly bells' song.

WHERE SINGS THE WHIP-POORWILL

Golden-gray the twilight lingers
In the glory of the west,
Where the whippoorwill is singing
And the lake is lulled to rest.

Every leaf has stilled its motion,
Listening for silent Night,
And across the placid water
Floats a path of golden light.

Gliding o'er its glowing lustre
Gentle Night meets tired Day,
Veiling his resplendent glory
As he slowly steals away.

Now the gray has lost its golden,
Dusky shadows gather deep,
Where the whippoorwill is singing,
And the lake is lulled to sleep.

THE ANGEL'S KISS

When darkness slowly fades from earth away,
And dawning shades are turning rosy gray,
An angel comes, and softly stooping low
Leaves on our lips a kiss, a blessed kiss,
Filled with protecting peace and heavenly bliss,
Which means, "I guard you and I love you so."

If we could drive away all woe and strife,
And thoughts of wicked things that crowd this life,
We should awake and that pure presence bless.
But, ah! our eyes are sealed in slumber deep;
The angel rouses not our soul from sleep,
And we dream on and lose that sweet caress.

I cannot feel the tender touch divine,—
Good wars with ill within this heart of mine—
But all through life my hope, my prayer, is this:
That when my night on earth has passed away,
I may behold soft lights of dawning day,
And wake at last to feel the angel's kiss.

THE SILENT SINGER

(Eugene Field)

The lights are all low, for the Sun's in the west,
But where is the singer that lulled us to rest?
The singer was tired—though day was not long—
And when he had finished his slumber-time song
An angel re-echoed the lullaby lay
And hushed him to sleep at the close of that day.
Oh, rest, silent singer, till morning breaks through,
And wake to be welcomed by "Little Boy Blue"!

LOVE

The atmosphere of Heaven is love, and when
The portal outward swings for souls redeemed,
The precious ether, so released, is streamed
Upon a weary world. God's gift to men
It is, for spirits turned to Him. Oh, then,
They, over whom this wondrous waft is beamed,
Inbreathing it, see visions brain ne'er dreamed,
Or through another source may dream again.
The world is glorified; they sing and sound
A quivering key-note of such ecstasy,
The keen vibrations throb till there is found
A soul companion of rare harmony.
If lightly breathed it ends in one brief round;
If deeply drawn it chords eternally.

BEYOND THE HILL

A picture of a scene so fair have I—
The grasses seem to wave in restful glee,
A cottage nestles 'neath a maple tree,
A little pebbled brook is rippling by,
And distant, dimmed by twilight shadows still,
Uplifts in gentle slope a lofty hill.

Along an upward path and near the crest,
A laborer, on toil's surcease intent,
Is slowly climbing o'er the steep ascent.
Naught has the scene but peacefulness and rest
To fill my soul with calm content, until
I wonder what is seen beyond the hill.

Is there obscured as beautiful a spot,
Where sunshine brightens trees and fields as green,
Or has the artist shown the fairest scene?
While musing thus, there slowly comes the thought:
As life is yonder view, and see we will
The future as we look beyond the hill.
Life's weary winding steep we all must climb;
We form the future while along the way,
The journey ever lessens day by day;
And if we wisely walk in this brief time,
Then will the scene our soul with rapture thrill,
When we can gaze, at last, beyond the hill.

O Father, loving, kind! hold Thou my hand
And guide my footsteps that I climb aright;
So, when the land revealed may meet my sight,
As I upon the distant summit stand,
All may be fair, and beautiful, and still,
And I may see Thee there beyond the hill.

MY LIFE-HARP

Within my heart a golden harp
Is sweetly strung in tune,
Where souls akin in harmony
Ofttimes with me commune;
And some have vainly tried to bring
The tone the robin trills in spring.

The chords that made their melody
Had no vibrating thrill
To wake an echo in my heart—
On ceasing, all was still;
And yet I knew my harp could play
Just such another roundelay.

I waited, and at last a touch
Soft dulcet notes caressed,
Until the singing, quivering strings
The master hand confessed;
The music that was made for me
Excelled the robin's rhapsody.

My David all unconscious is
  Of his exquisite power,
And thus the melody divine
  May end in this brief hour;
But through my heart its memory sings
Until God's hand doth mute the strings.

THE KISSING-GATE

The Lakelet lapped its pebbled beach
  In rhythmic ebb and flow,
Accordant with the melody
  The Forest whispered low;
The arborvitate's spicy breath
  With fragrance filled the glade,
As o'er a rustic kissing-gate
  It cast protecting shade;
There, Love, you waited ardently
The precious toll to take from me.

To-day the song is softly crooned
  In minor undertone,
As through the wood I sadly stroll
  Alone, my Love, alone.
An eerie wind has caught the gate
  And open flung it wide;
O Love, I would the great Beyond
  Were just the other side!
Where we could find some restful spot
And feel the peace the world gives not.

Has Heaven glowing jasper walls,
  And golden portal tall?
Tell me there is a forest lake,
  And glad sky over all;
That arborvitaes thickly mass
  And waft their incense sweet
Above an olden trysting-place,
  Where we were wont to meet;
Tell me there is a kissing-gate,
Where you, O Love, my Love, will wait!

THE ANGEL OF THE SOMBRE COWL

When sight and sound, by Pain's oppressive hand,
  Were dimmed, and low the shaded night-light burned,
  A Presence came beside my bed, and yearned
To clasp and bear me to another land.
But whispered gently, "It is not so planned."
  In sweet compassion was the soft glance turned
  On mine, till senses quickened and I learned
The tenderness within the eyes that scanned.
"O Angel of the Sombre Cowl! close fold
  My hand and lead me into peace," I prayed;
But with a glowing glance of love untold,
  Alone to the Unknown he passed. Now stayed
Is former dread; whatever life may hold,
  I follow to the end, all unafraid.

LITTLE NELLIE'S PA

Oh! me and Nellie Barker live way down on William Street,—
I'll bet you couldn't find another youngster half so sweet;
Why, when she wears that gown of hers, the color of the skies,
You'd think 'twas made of bits of stuff, exactly like her eyes.
She's like a reg'lar picture girl, so pretty, I tell you,
She's like the cards they have for advertisin' washin' blue.
Her hair's just like a shinin' light, soft fluffy curls,—but pshaw!
'Tweren't her that I'm to tell about,—it's little Nellie's Pa.

Oh! he's of no account,—"a ne'er do weel," her grandma says;
It's this, he takes a glass too much and isn't right for days;
But me and Nell is awful thick; I live across the way,
And she sees me, I guess, 'bout forty 'leven times a day.
We always play at teachin' school, and Nell's the boss; you see,

She's in the part-a-second book and knows lots more than me;
She stays with us a lot, for if I'd make a noise, he'd jaw,
And I am kind of half afraid of little Nellie's Pa.

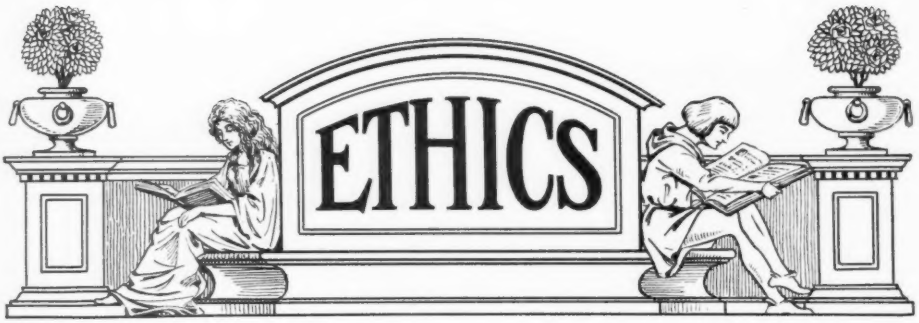
Once me and Nell was down the town, 'twas on a Saturday,
And there was such an awful crowd we thought we wouldn't stay;
We started off for home and hadn't gone so very far,
When right before us rushed a horse, skeered by a trolley car.
I thought that we was gonners sure, but someone grabbed it quick.
And held on tight; it dragged him down, but my! he was a brick;
He held on till he dropped, the awf'lest sight you ever saw,
As white as death; you'd never think, 'twas little Nellie's Pa.

I hustled off with Nell so fast she hadn't time to know,—
I wanted for to get home first and knowed that they'd come slow.
Well, he was awful sick, was hurt inside, his leg was broke,
And Nellie said 'twas days and days before he even spoke;
And by and by he comed around and walked out with a crutch,
And then I wasn't skeered of him, and didn't run,—not much!
He used to sit and sun hisself a talkin' to her Ma.
And, by and by, I got to likin' little Nellie's Pa.

One Sunday, Nell was teachin' us and we was singin' singing' there
'Bout "Jesus loves me, this I know,"—I guess you've heard the air;
And Nell, she held her finger up and said that it was true,
He loved us all, the good or bad, no matter what we'd do;
Of course He's sorry if we're bad; and then poor little Ned
Looked up with his big eyes and—"Does he love yer Pa?" he said.
Her Pa was sittin' near an' when he peeked around I saw,
And answered up,—"Of course He does love little Nellie's Pa."

Well, I was sorry, don't you know, fur lately he'd been kind,
And after that the doctor said he'd somethin' on his mind.
When he got worse again I knowed that he was goin' sure,
For after once a bird's flew in you know there ain't no cure;
And Nell, she heard a tick-a-tick just solemn like a clock,
And Butler's dog, it howled one night, you'd heard it for a block;
So just at noon, when someone came a runnin' in for Ma,
I knowed right off, at last there weren't no little Nellie's Pa.

But man! the funeral was fine; the Workmen all turned out;
The band was there and beat the drum so soft, and marched about;
They played that awful thing, it keeps a runnin' in my head;
"Tum, tum, tum, tum, tum, tum, tum;" I could hear it in my bed.
You'd think he'd been a minister, as good as good could be;
They took their shiny hats right off, and so I guess, you see,
The angels too will act the same, forget the sin they saw,
And be just awful glad to meet my little Nellie's Pa.



WE know you will want to see what the Catholic Register has to say about us. It is photographed for you on the opposite page. We have just five things to say:—

I. Our first Editorial referred to speaks of the past, not of the present or the future and has special application to our May issue. In this connection we are pleased to state that the religious journal there mentioned has deleted all its questionable advertisements but two and these are the least objectionable.

II. How the Editor jumps to the conclusion that ours "should be a purely medical publication" we do not know. We present a unique journal, one that is as interesting and necessary to the general public as to the profession of Medicine.

III. We do not sermonize. We merely present facts, and facts as you know, have a confirmed habit of stinging.

IV. We know that the Catholic Register must have refused a "little fortune in quack medicine, rum, and political ads," and we wish again to commend its attitude. We know that we had nothing whatever to do with its policy in this regard, but that does not hinder us surely from presenting our congratulations.

V. There is not one single advertisement appearing in the pages of the Public Health Journal that is suspicious or objectionable. The Catholic Register says the Journal contains "a dozen much more suspicious ones." We should be glad to be told which they are.

MEDICE, CURA TEIPSUM

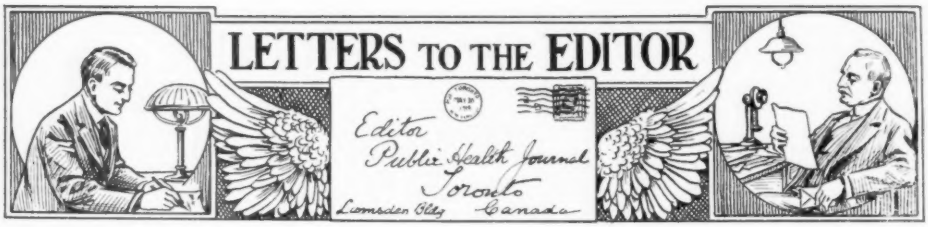
We have all sorts of moral instructors these days. There is a paper called the Public Health Journal laid on our table. We happened to look it over by chance, as we are not interested in what should be purely medical publications. We find it has an ethical department, however, and a moralizing editor. In the editorial notes this piece of fairly bumptious sermonizing is vouchsafed:

"Without a doubt the object lessons which we are presenting under the general caption of 'Ethics' appear to be stirring up a great amount of comment. One of our readers told us that he has taken to the study of the advertising pages in his religious weekly as never before. He finds a vast amount of improvement necessary. Another subscriber writes us in reference to his particular weekly and deplores the fact that the attention of the authorities of his church has been called again and again to the placing of fake advertising, with no result. We believe that it is a shame for the religious press to lend itself to such perfidy. If the religious press wants its sermons to enter responsive hearts, it will have to cleanse itself. No preacher can do effective work for humanity unless he is clean every whit. We have no quarrel with the Canadian religious press. It is manned by capable men and presents weekly and monthly very creditable periodicals. But we insist that the religious press is doing great harm in flaunting fake advertisements before its religious readers. We shall continue to show the public what this evil looks like until it shall have been done away."

Now, this may be all right enough, but the self-righteous jornal does not stop at admonishing the church. He even prints his own classification of the religious newspapers, and, O ye gods! includes the Orange Sentinel among them. Worse and worse, he prints facsimile pages from Register-Extension and the Sentinel this week with what he calls objectionable ads., and whilst we are complimented after this fashion and the other paper grilled, we certainly object to being placed anywhere or at any time in this sort of company. We admit that the contrast is striking, but we are not highly honored by its being made at all. Says the Journal, under the heading, "A Striking Contrast":

"We made a careful study of the May 7th issues of the Orange Sentinel and Catholic Register, culling from each its reprehensible quota. The results are apparent on these two pages. We congratulate the Catholic Register upon its freedom from fake advertising, for you can clearly see there is none within its columns; the two excerpts from its pages being the only ones which in any way approach such advertising. Let it be distinctly understood that there is as much advertising space sold in the one journal as in the other."

The two ads. reprinted from our paper have no right to be so printed and compared, especially as this scrupulous organ has in its own pages a dozen much more suspicious ones. The Sentinel, of course, shows up terribly, as could be expected in an organ whose very raison d'etre is to hoodwink and bamboozle the most gullible portion of the community by persistent and malicious misrepresentation of the Catholic Church and its adherents. We have refused since we took up the management of Register-Extension a little fortune in quack medicine, rum and political ads., and we continue to do so every day on principle and not because the Journal or any other self-constitted monitor has appeared on the scene. There are many ads. in the Journal's columns we would not touch. We therefore say to it in all honesty, Medice, cura teipsum.



A LIVE ISSUE.

699 Spadina Avenue, Toronto.
June 26th, 1914.

The Editor,
The Public Health Journal.

Sir,—As a Veterinarian engaged in Public Health work I shall feel indebted to you, if, through the medium of your valuable journal, you would call the attention of all engaged in such work to a danger which threatens our system in this province.

This danger is—of all unbelievable things to us Loyal Canadians—an invasion by England!

The Royal Sanitary Institute of London, England, is now established in Ontario and has appointed a Board of Examiners here.

This institute not only gives a short course of lectures and instruction on Sanitary Science and Hygiene but also on meat inspection and if the Veterinarians of the province do not take immediate steps to prevent it they will find that in the near future, men, whose only qualifications will consist of the above short course and an examination by the Board of Examiners, will receive appointments as Meat Inspectors. If such a thing does happen, the inevitable result will be similar to what exists at present in England in regard to Meat Inspection, viz., endless confusion, disputes and law cases. The Medical Profession must recognize the fact that when Meat Inspection includes both Ante and Post Mortem inspection of food animals, it can only be carried out thoroughly by one trained in Comparative Anatomy, Physiology and Pathology, and that such training can only be obtained at a recognized Veterinary College with a course of not less than three years duration. Therefore a course of instruction of a few weeks duration such as the R.S.I. gives can only impart a dangerous amount of knowledge to anyone for such a responsible position. As Food Inspectors in shops, etc., men with such a training may be alright, but as Meat Inspectors they will only bring the system of Meat Inspection into disrepute and confusion while it is in its infancy and developmental stage in this province. I would respectfully call the attention of the Medical Officers of Health and the Board of Examiners for the Royal Sanitary Institute, to the following quotation from Ostertag—the highest authority on Meat Inspection—"Official ordinances concerning the regulation of Meat Inspection." "These measures point to a goal which, on account of its importance to the public welfare, it should be the object of every civilized country to attain. When this goal is attained, the sanitary condition of the population will be improved, honest traffic in meat and meat products will be created, and finally, a beginning will have been made in the improvement of the health of our domesticated animals. The most important condition to the attainment of this goal is the education of industrious, reliable experts to whom the execution and supervision of Meat Inspection may be entrusted. The chief functions of practical meat inspection (careful investigation of all animals before and after slaughter, a most accurate determination of all variations from the normal condition, a scientifically and legally correct separation of marketable and non-marketable meat, and the sanitary destruction of organs and whole animals which are excluded from use) are such important duties and so intimately connected with general sanitation and the national welfare as to make it evident that they should be undertaken only by thoroughly trained experts. A defective knowledge of the subject is most bitterly avenged

in Meat Inspection. Either it allows meat dangerous to health to pass upon the market or causes a loss to the national resources by unjust condemnations."

If the medical authorities take the right stand in regard to whom the important work of Meat Inspection is to be entrusted this invasion on the Veterinarian's territory will be promptly checked.

Trusting you will give this some notice in your journal and thanking you in advance I am

Yours, etc.,

JOHN MacBRIDE.

AN APPRECIATION.

35 Caledonia Rd, Toronto.
June 24th, 1914.

The Editor,
The Public Health Journal.

Sir,—I regard the Public Health Journal as one of the ablest of sanitation exponents which I have seen. I hope you will not leave out the poetry and travel article. All your readers are not doctors. Some of them are housewives. I am.

Besides the professional brethren need to cultivate the fine arts. The doctor that knows nothing but doctoring doesn't even know that. I hope you will continue these articles or similar ones.

Yours, etc.,

HELEN G. TAYLOR.

APPRECIATION.

10 Euclid Ave., Toronto.
June 23rd, 1914.

The Editor,
The Public Health Journal.

Sir,—I wish to express my great appreciation of the Public Health Journal. Its health articles are excellent, helpful and of high authority. I especially delight in the travel articles and poetry recently introduced. We of the profession greatly need the relaxation which is derived from such reading, and besides, many of the public are of the opinion, as I have reason to know, that we are in dire need of a broader and finer and deeper vision of the health needs of our contemporaries. Poetry and travels are certainly good for the health. I congratulate you.

Yours, etc.,

A. D. WATSON, M.D.

A WESTERN CONVENTION.

114 3rd Ave. N., Saskatoon,
June 23, 1914.

The Editor
The Public Health Journal:

Sir,—The 1914 convention of the Saskatoon Medical Association will be held in Saskatoon on Aug. 18, 19, 20.

The president this year is Dr. G. R. Peterson, F.R.C.S., of Saskatoon, and the secretary-treasurer (pro tem) is

Yours truly,

J. T. MACKAY, M.B.

PLEASED.

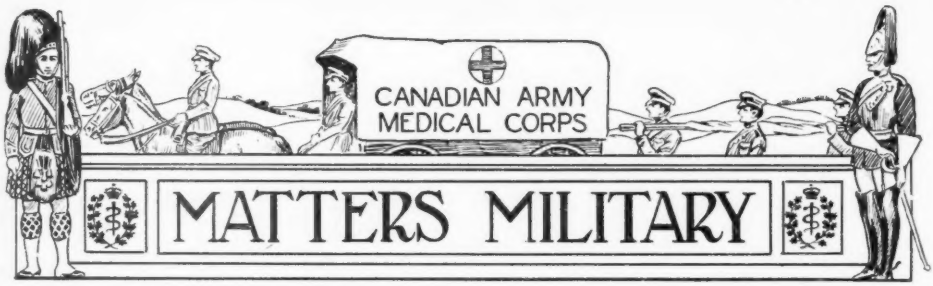
Moose Jaw, Sask.

The Editor,
The Public Health Journal.

Sir,—I am pleased to congratulate you on providing a section of your valued Journal for matters pertaining to the Army Medical Corps. I am sure it will prove to be not only interesting, but useful to members of the P. A. M. C. It serves as a link in a chain to keep up together, and I would like if space permits for each member to contribute a small article on matters relating to camp sanitation and first aid. Wishing you every success, I am

Yours, etc.,

PERCIVAL H. MEIKLEJON,
Batt. Sergt. Stretcher Bearer Section,
60th Rifles. Canada.



BARON LARREY, THE MEDICAL TACTICIAN

By COL. GUY CARLETON JONES

Director-General, Medical Services, Canadian Militia

I HAVE many times indicated that the art of medical tactics was a new one—that it had only recently engaged the attention of the military medical experts. The more I read and the more, I hope, I learn, I find how untrue that statement is. Great wars have produced before now great medical tacticians, and although we cannot say that any British medical officer rose to the rank of a great medical tactician, we, however, find that some made an attempt, and succeeded, as far as circumstances allowed them. MacGrigor had the idea, but Wellington had not the genius to recognize it. Longmore also had a clear conception as to what great advantage would arise from a proper use of medical tactics, but he never had the opportunity. His services spent in the Crimea must have demonstrated to his logical mind the need of more than the British service then had, or ever has had, in the way of medical organization. I am of the opinion that we who are trying to educate ourselves as medical tacticians, will learn most from studying the work and method of Larrey the Frenchman, and Letterman the American. We must, in all fairness, however, discount to some extent the work of the latter, for he was conversant with the work of the former. So that we really should devote a chiefest and closer study to the great Napoleonic surgeon and administrator.

It seems only right that with the great rise of so many military—geniuses, I was going to say, but I question if that would be correct—as a result of a quarter of a century of fighting at the end of the 18th and beginning of the 19th, it seems only right that at least one medico-military genius should have been produced. That one is certainly Larrey; though on the French side there were also Percy and Des Gennettes, and on the English MacGrigor. None of these displayed that great constructive genius of Baron Larrey; and none of them had the great and complete confidence of their chiefs as Larrey had of Napoleon. Though often Larrey served under Percy, it was plain to see the greater carefulness of his work in the Guards over the rest of the army. As was the custom of the times Larrey was consulting surgeon, operator and administrator. The study of his surgical practice is an interesting one—but demands a special consideration. It is, of course, merely of historical interest. Circumstances have changed military surgery more almost than any other branch of the surgical art. But he was the military surgeon—par excellence—of his day; his methods were the methods of the times, and his results were better than those of his contemporaries. Larrey began his military career with the Army of the Rhine in 1792 when he was 26 years of age. He had previously done some service in the navy, having made a voyage to Newfoundland and St. Pierre Miquelon. How many young men whose names became so well known in the next twenty-five years were in that army—Beauharnais, Houchard, Desaix, St. Cyr, Clarke and others!

Percy, only 38 years old, was the surgeon-in-chief. Finding practically no provision for wounded or sick, he did much to bring about a better condition. He was hampered by the fact that the medical service, as a service, did not exist; nor was it ever autonomous in the time of the Republic or the Empire.

Percy anticipated the Geneva Convention by proposing the neutrality of wounded, of hospitals and ambulances. This was approved by Moreau who suggested its adoption to the Austrian Commander General Kray. This proposal was in the form of five articles dedicated to the inviolability of the wounded of both armies, and the neutrality of hospitals and medical personnel. General Kray, however, would not agree. Non-combatants during Napoleon's wars were often treated as neutrals. Francois, he of the memoirs, on being taken prisoner at Borodino was, with the paymaster, let go, because he was a quartermaster and therefore a non-combatant.

Larrey's first engagement was at the siege of Spire, 30th September, 1792. Custine was in command with sixteen thousand men. The attack was short and sharp, and the place surrendered. Larrey was reprimanded for exposing himself too boldly in going to the aid of the wounded. The wounded were taken to a large convent in Spire, and dressed and cared for by Larrey, who worked all night. He had forty wounded French, and only lost four, he says, with much satisfaction. This was the commencement of Larrey's brilliant career; he was at once promoted and started on the road to fame. During this campaign Larrey was with the advance guard, under Houchard; and it was then that he conceived the idea of an **ambulance volante** from the fact that his wounded were fast falling into the hands of the enemy, as the advance guard was being driven back. It was originally composed of three surgeons and one **infirmier,** all mounted on strong horses, and carrying haversacks with instruments and dressings. Larrey was its surgeon major and thus was able to dress for the first time the wounded where they fell. The medical officer made his **debut** on the battlefield. Thus Larrey originated the idea of bringing the means of aid to the wounded, instead of the old custom of allowing the wounded to lie unattended, until collected and taken to some point where there was medical aid and assistance. Had this never been done before? I doubt it. Surely the common sense of it must have appealed to some one? But we must remember always, the relative value put upon human life by different civilizations.

Ambroise Pare, the first of modern military surgeons, was only a personal attendant of the commanding officer, but gave his professional assistance to all sufferers who were brought to him. And although the medical service did develop in both English and French armies during the wars of the 18th century, still the same principle was always maintained of collecting the wounded after the battle, and of moving them to some practically improvised hospital. It is true that there were ambulances in the French army of the old regime; but they were really hospitals, consisting of immense clumsy wagons. These were afterwards somewhat modified by introducing a lighter wagon. But these wagons always remained in the rear, a long distance in the rear considering the range of fire. The wounded remained on the battlefield until the battle was over. Curiously enough this is almost the condition we are being driven to now on account of the deadly rapid fire. But we have made our ample provision for the immediate application of first aid and for immediate evacuation even under the enemy's fire. This was what Larrey conceived to be the proper function of medical assistance. His genius, for it was not his experience, realized this after the first time he was in action; especially when with an advance guard his wounded fell into the hands of the enemy. I cannot do better than to quote Baron Larrey's biographer, who says, "This brilliant initiative act was the prelude to a remarkable transformation in military sur-

gery, and raised its role to a high standard. It saved the lives of thousands of men, it strengthened the morale of the soldier. It ennobled the work of the surgeon, to whom was at last given the role of a combatant, though he fought without arms for his country and humanity in the very midst of the battle." (D. Larrey par Paul Triare). Let us see what this ambulance was and how closely it resembled our ambulances.

	Ambulance Volante (1/3).		Cavalry Field Ambulance.
1	Surgeon major.	1	Major
14	Surgeons	6	Medical officers
12	Ambulance wagons	10	Ambulance wagons
4	General service wagons	6	General service wagons
37	Orderlies (12 mounted)	38	Bearers
1	Bugler	2	Buglers
25	Drivers.	36	Drivers
1	Quartermaster (N.C.O.)	2	Stewards
2	Clerks	2	Clerks
32	Miscellaneous	32	Miscellaneous
113		120	

If after a hundred and twenty odd years we, a strange country, have adopted the very same organization that this young surgeon of the Army of the Rhine suggested to the authorities in 1792—adopted it, but I am sorry to say not completely—then surely we must acknowledge the genius of the man who originated it.

The figures I have given are for one of the three sections. The whole unit was called "Legion de l'Ambulance Volante," the same as if our three field ambulances of a division were one—as for a matter of fact they are—under the command of the O. C., A.M.C.

Larrey's idea was to have an ambulance as mobile as horse artillery. His officers were all mounted and each officer had a mounted orderly. His tactical use of the ambulance was to establish it outside the fighting area, with advanced posts. The seriously wounded were dressed where they fell. In mountainous countries pack mules were used; in Egypt Larrey used camels.

It is interesting to quote Larrey's report after his first experience with the ambulance. "The **ambulance volante** which I originated at the commencement of the Magence campaign is sufficiently known throughout the whole Army of the Rhine for any one to doubt the important service which it has rendered the defenders of the country. Attached to the Advance Guard, it has followed all their movements, undergoing the same fatigues and dangers. The small number of medical officers composing it had no fear of being struck by the shells and bullets, while dressing all the wounded on the field of battle in every action in which the Advance Guard was engaged. I dare even to say that it was only to the prompt and ready aid of this ambulance that many a brave republican owed his life. But it has not sufficient means to give first assistance to all the wounded of the army. Just at present this ambulance consists only of six mounted medical officers with haversacks carrying necessary dressings, of two **infirmiers**, and two wagons; nevertheless it has extended its action from the centre to the extreme right wing, but not to the left. The wounded on that wing were not dressed for a long time after the action. Therefore, in order that our brothers in arms may be treated as humanity demands, it is necessary to increase the ambulance by six officers at least, and a relative number of **infirmiers**. I would be able then, according to circumstances and by orders of the General, to send divisions of different strengths to the various parts of the army where it was engaged; and I promise that all the wounded would receive necessary care and treatment. If this establishment is considered useful to humanity, I ask the citizens generally

of the Army of the Rhine to give it their approval when the National Convention has authorized its formation, and established a complete ambulance in every army of the Republic."

I cannot follow Larrey through all his campaigns in Italy, in Egypt, in Central Europe, in Spain, in Russia, and in the final **debacle** in Belgium. It will be sufficient to take one battle and see how Larrey utilized his **ambulance volante**. Let us take the great battle of Austerlitz, December, 1805.

Larrey was at Boulogne, with Napoleon, as Surgeon-in-Chief of the Imperial Guard, and preceded the Emperor to Strasbourg. There the Emperor arived on September 25th and inspected the medical services, saying, "Larrey you need not be ready before me."

It is extremely interesting to note what the medical organization of the Imperial Guard was under Napoleon and Larrey. The surgeons of each regiment of the Guard had two pack-horses for their equipment and dressings. There were practically no stretcher bearers, for although recommended by Percy in 1792, they were not authorized until 1813. The **ambulance volante** consisted of one surgeon of the first class, six of the second class, two pharmacists and eight **infirmiers,** mounted and lightly equipped. Six ambulance wagons and two store wagons made up the transport. Next was a sedentary ambulance, and behind this an organized, though improvised hospital at each large halting place. This was the arrangement in the Guards, but it was not general throughout the Grand Army. Percy, the surgeon-in-chief, had not arrived when the army crossed the line. Larrey was given the duties of surgeon-in-chief, while Coste was the physician-in-chief.

Napoleon marched on Vienna after taking Ulm. In the middle of November the army left the Austrian capital, and on the 18th was fought the bloody engagement at Hollabrunn between the French advance guard under Lonves and the Russian flank guard under Bagration. Larrey arrived next day with the Guards, and halted his ambulance on the battlefield. The sight seen there was awful. The unfortunate town of Hollabrunn had been taken and re-taken several times and finally burnt by the Russians. The wounded had taken refuge in the houses, those who could not flee were burnt alive. Most of the wounded had not been dressed or attended to. Larrey with the assistance of two personal surgeons of the Emperor started in and dressed the wounded, operating on those requiring it. Primary amputation was, of course, the operation of the day. The wounded were evacuated to Vienna, and Larrey rejoined headquarters at Znaim.

The night before Austerlitz—a rainy, frosty night—Larrey spent making his last preparations and writing his instructions. That day he had inspected the hospitals at Brunn, which had been opened in the convents; satisfied himself as to their conditions, and made a detailed report to the Quartermaster-General as to what was required. The hospitals at Brunn were really evacuation hospitals; for all the wounded were to be sent to Vienna, where extensive preparations had been made for their reception in the hospitals in that city.

The central ambulance was stationed at the mill at Palny, the divisional ambulances being in touch with it. This ambulance, on its part, was in touch with the hospitals at Brunn, where in addition to the regular hospitals, churches, and houses were able to receive the wounded. Even the Chateau of Austerlitz became a hospital. The three general ambulances were stationed with the first, second, and third lines of the army, and from them radiated the divisional ambulances that followed the columns. Larrey's order, in the name of the Emperor, given to the Q.M.G. is more than interesting—I must give it in full. Bivouac at Austerlitz:—

"Charged by his Majesty with the general care of the Medical Service of the Army, and in virtue of the verbal order given me, I pray you to be good

enough to cause to be here, to-morrow morning, the day indicated by the order for the battle, a sufficient number of wagons for the transport of the wounded, food and brandy for each wagon, and all the stretchers you have at your disposal.

"Will you also cause the commissaries of divisions to be, to-morrow morning, near the three principal ambulances which I have established at the mill for the third line, at the farm for the second, and at the post house for the first, from whence we will make distribution to the sub-divisions which will need to follow the detached columns, in case of pursuit of the enemy.

"I have inspected during the day and will again see during the night, the ambulances and medical officers of the different army corps to whom I have given the necessary instructions, in order that they may be on the field of action at points known to the chief surgeons, with their instruments and dressings.

"I think that, with all these preparations, and the supervision which I will exercise myself over all the ambulances, the wounded to-morrow will receive all the aid which they have a right to expect to receive from us. I recommend only your great attention in carrying out, in this respect, the things demanded."

On the morning of the first, Napoleon himself inspected all the ambulances and ascertained what means for transporting the wounded had been provided. In the Emperor's proclamation to his troops he says, "Let no one under pretence of helping the wounded break ranks." He meant helping wounded by straggling to the rear.

Percy arrived in haste from Vienna, during the morning, so that Larrey was relieved of his duties as chief surgeon of the army and limited his action to his duties as chief surgeon of the Imperial Guard. His ambulance advanced with the Guards when they made their famous attack on the Russian Guards.

From his report to the Emperor, it is seen that he caused the wounded to be taken to the central ambulance at the mill, and some even to Brunn. He was convinced of the importance of evacuation after first aid dressing on the battlefield, for he says: "All having received first aid on the field of battle have been transported in the spring wagons of the ambulance to the mill, some have even been taken to Brunn. The most severely wounded remain still in our ambulance opened at the mill"; and further, "In following the movements of the Infantry of the Guard to the shores of the lake, we dressed, with Inspector General Percy, all the wounded that we met on our way and had them taken to the neighboring villages as far as the means of transport allowed."

The wounded from the allies as well as the French were evacuated to the hospital at Vienna as soon as possible, a distance of about sixty miles by road. It took a long time to evacuate Brunn, and in the meantime typhus broke out. It spread rapidly amongst the Russian wounded and prisoners, and from them to the inhabitants, and to Vienna. It followed the army and prisoners to France.

Such then was Larrey whom Napoleon termed "The most honest man he had ever known," and to whom Wellington at Waterloo seeing him at work with the Old Guard under fire, took off his hat and said, "I salute his honour and his loyalty."

To be Lieutenant-Colonel—Major J. W. Shillington, vice Lieutenant-Col. J. T. Fotheringham, transferred to the Reserve of Officers. 1st April, 1914.

To be Major (supernumerary)—Major J. F. X. Bosse, from the 89th Temisconata and Rimouski Regiment. 3rd March, 1914.

To be Captains:—

Lieut. S. J. Keyes. 5th April, 1914.
Lieut. G. H. Field. 5th April, 1914.
Lieut. N. H. Sutton. 5th April, 1914.
Lieut. W. A. Burgess. 7th April, 1914.
Lieut. J. H. Stead. 7th April, 1914.
Lieut. S. Ellis. 7th April, 1914.

To be provisional Lieutenants (supernumerary):—

Michael Pierre Lambert. 1st Jan., 1914
Wenceslas Lacroix. 1st Jan., 1914.
George Carleton Hale. 27th Feb., 1914
George Alexander Campbell. 14th March, 1914.
Otto Wilmot Niemeier. 21st March, 1914.
John Cameron Wilson. 23rd March, 1914.
Captain G. J. Boyce, from the Corps Reserve, 87th Quebec Regiment. 25th March, 1914.
Lieut. H. W. Kerfoot, from the 41st Regiment "Brockville Rifles." 25th March, 1914.
John Fraser MacIver. 28th Mar. 1914.
Frederick Nassau Hughes. 30th March, 1914.
William Albert Scott. 31st Mar., 1914.
Alfred Kimball Haywood. 4th April, 1914.
William Alfred Gordon Bauld. 8th April, 1914.
David Alexander Hopper. 9th April, 1914.
John Parnell Walsh. 10th Apr., 1914.
Earl Allard Smith. 11th Apr., 1914.
Samuel Orvil Hughes Jones. 14th April, 1914.
Joseph Emile Lacoursiere. 15th April, 1914.

To be honorary Captain—Quartermaster and Honorary Lieutenant A. D. McConnell. 26th June, 1913.

To be Dental Surgeon with the honorary rank of Lieutenant—Leroy Leo Hartman. 15th March, 1914.

To be Nursing Sisters (supernumerary)—Pearl Grace Harriet Punsep. 13th March, 1914. Mary Woods Nelson. 23rd March, 1914.

Lieutenant (supernumerary) G. L. Jepson is permitted to resign his commission. 17th April, 1914.

Provisional Lieutenant C. F. Crutchlow is permitted to retire. 23rd March, 1914.

REGIMENTAL MEDICAL SERVICES.

18th Regiment "Franc-Tireurs du Saguenay."—To be Major—Major E. Savard from the Reserve of Officers. 1st January, 1914.

9th Regiment "Voltigeurs de Quebec."—Captain J. O. Leclerc is permitted to resign his commission. 25th March, 1914.

CERTIFICATES.

The following certificates are granted:—

Lieut. G. J. Boyce, Captain.
Lieut. J. E. Belanger, Captain.
Lieut. W. Lacroix, Captain.
Lieut. J. T. Dussault, Captain.
Lieut. J. A. Paradis, Captain.
Lieut. J. F. McIver, Captain.
Lieut. C. A. Delage, Captain.
Capt. G. P. Howlett, Sanitary Officer.

CONFIRMATION OF RANK.

The undermentioned provisionally appointed officers, having qualified themselves for their appointments, are confirmed in their rank from the dates set opposite their respective names:—

Supernumerary Lieutenant E. L. Stone, 5th January, 1914.
Supernumerary Lieutenant G. E. Kidd, 17th February, 1914.
Supernumerary Lieutenant C. H. McDougall, 24th April, 1913.
Supernumerary Lieutenant G. G. Greer, 27th June, 1913.

Captain J. A. Gunn is granted the temporary rank of Major whilst in command of No. XVI Cavalry Field Ambulance. 1st April, 1914.

POSTINGS.

The following officers are posted for duty as stated:—

Major T. B. Richardson reverts to the Regimental List from No. X Field Ambulance.

Major W. B. Hendry is detailed to command No. X Field Ambulance, vice Major T. B. Richardson, transferred to the Regimental List.

Major W. P. Dillon reverts to the Regimental List from No. II Field Ambulance.

Captain G. Hyland is detailed for duty to No. X Field Ambulance.

Captain H. K. MacDonald reverts to the Regimental List from the 63rd Regiment (Halifax Rifles), 3rd May, 1914.

Captain A. R. Cunningham reverts to the Regimental List from No. 1 Field Ambulance, 21st April, 1914.

Captain A. R. Cunningham is detailed for duty as Medical Officer to the 63rd Regiment (Halifax Rifles), vice Captain H. K. MacDonald, transferred to the Regimental List, 4th May, 1914.

Lieutenant (supernumerary) G. W. O. Dowsley is detailed for duty to No. 1 Clearing Hospital and to be borne supernumerary to the establishment.

Lieutenant (supernumerary) G. C. Hale is detailed for duty as Medical Officer to the 7th Regiment (Fusiliers), 8th April, 1914.

Lieutenant (supernumerary) W. E. Ogden is detailed for duty to No. XIII Cavalry Field Ambulance, and to be borne supernumerary to the establishment.

Provisional Lieutenant (supernumerary) T. H. McKillip is detailed for duty to No. X Field Ambulance.

Provisional Lieutenant (supernumerary) W. A. Scott is detailed for duty to No. X Field Ambulance.

Quartermaster and Honorary Major A. Evanturel reverts to the Regimental List from No. VII Field Ambulance.

THE THUNDER BAY MEDICAL SOCIETY

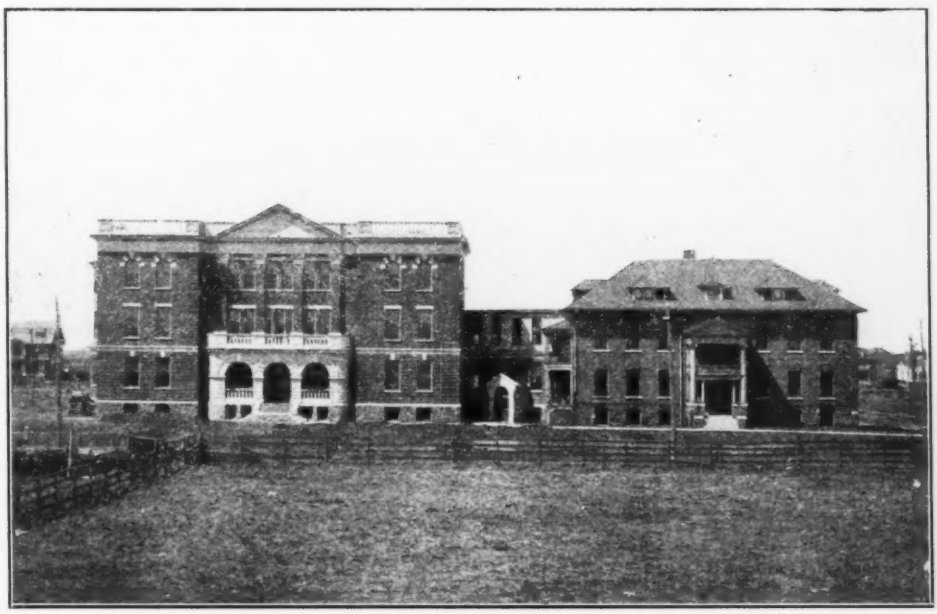
By CRAWFORD C. McCULLOUGH, Past President

THE history of any Western Canadian institution is ever in the making, since in point of years the oldest is young; yet mere age is no measure of achievement. Thus, the Thunder Bay Medical Society, though scarcely ten years old, is a firmly established institution with a record of achievement which is satisfactory.

In 1904 when Port Arthur and Fort William were yet towns each with its handful of hard working physicians and surgeons the organization of a Medical Association was first mooted. To the preliminary work of organization of Dr. G. Wallace Brown of Port Arthur and Dr. H. E. Paul of Fort William, the present Society owes its inception.

The initial meeting was held at Port Arthur, Nov. 17th, 1904, when provisional officers were elected and a committee named to draft a constitution and bylaws and report at a meeting to be held two weeks later.

At this subsequent meeting, Dec. 1st, 1904, a constitution, set of bylaws and code of ethics recommended by the special committee were adopted and permanent officers elected. The chief of the latter were as follows:



McKELLAR GENERAL HOSPITAL, FORT WILLIAM

President—Dr. G. W. Brown, Port Arthur.

Vice-President—Dr. W. W. Birdsall, Fort William.

Secretary—Dr. H. E. Paul, Fort William.

Treasurer—Dr. J. M. McGrady, Port Arthur.

The list of chartered members shows that practically every physician and surgeon of the two towns and the district were included. At the outset, it was decided and so incorporated in the constitution that the Association should be a district institution rather than a purely local, hence the name "Thunder Bay Medical Society."

There were just twenty charter members, since then thirty-five additional members have been elected to active membership. The society has three Honorary Members only. The stated meetings are held on the first Thursday of each month alternating in Fort William and Port Arthur. The months of July and August constitute the summer recess, no meetings being held in these months.

The annual meeting takes place in November and following the business of this meeting, a banquet is held. This is the chief social event of the Society's year and as such is always largely attended and greatly enjoyed

From the beginning, this Medical Association has been successful and to the medical profession of the district which it serves, it has long since become an indispensible institution. It has grown in less than ten years from a humble beginning into a numerically strong and actively virile society of medical men, whose meetings are always well attended, whose academic discussions are increasingly instructive, and whose influence in all matters pertaining to the public health is ever more valuable.

In 1910 the Society found that it had already outgrown its original constitution; so in that year a new constitution and set of bylaws were adopted making the Society much broader in its scope and more catholic in its aims.

The present officers of the Society are as follows:

President—Dr. R. J. Manion, Fort William.

Vice-President—Dr. G. E. Eakins, Port Arthur.

Secretary-Treasurer—Dr. J. G. Hunt, Fort William.

In view of the approaching meeting at Fort William and Port Arthur of the Dominion Public Health Association, a special organization of a general and sub-committee to take care of this important meeting was effected at the stated meeting of the Society in February. Each of these committees is perfecting its plans and the executive and members of our national public health association are assured that nothing that the members of the Thunder Bay Medical Society know how to do, will be left undone to make the coming meeting, from any and every standpoint, an absolute success.

Veterinary Hygiene

REGULATIONS RELATING TO TUBERCULOSIS

1. The aid of the Department of Agriculture, will be given to such cities or towns having a population of not less than five thousand persons as shall have secured the necessary provisions under provincial legislative authority for the purpose of agreeing to the present regulations.

2. The Government of Canada will assist any city or town, which shall have signified in writing to the Veterinary Director General, its desire to have the aid of the Department of Agriculture in controlling bovine tuberculosis in the cows supplying milk and cream to the said city or town, provided the said city or town shall have stated in its application for the aid of the Department of Agriculture, as aforesaid, that, being thereunto duly empowered by law, it will undertake and provide that:

(a) Dairies in which milk or cream are produced for sale therein shall be licensed.

(b) No license shall be issued unless the dairy conforms to the required standard.

(c) The standard shall require that the stable shall have an ample amount of air space, and at least two square feet of window glass for each cow, and shall be well ventilated, drained and kept clean and sanitary.

(d) After two years from the date of the first test of the cattle of any dairy, the sale within the said town or city, of milk or cream from any herd shall be prohibited unless the said herd shows a clean bill of health from the Veterinary Inspector.

(e) An Inspector or Inspectors shall be appointed and paid by the said city or town, whose duty it shall be to see that the undertakings and provisions, as aforesaid, are carried out, and that the cows are kept clean and properly fed and cared for.

3. The Veterinary Director General on receiving notice in writing from any such municipality of its desire to have the assistance of the Department of Agriculture, as aforesaid, shall forthwith make enquiry, and if satisfied that the foregoing requirements are being carried out shall send Veterinary Inspectors to inspect the said cows.

4. Veterinary Inspectors shall use the tuberculin test and also make a careful physical examination of the cows in order to determine whether they are healthy or not. Dairy bulls shall also be examined and subsequently treated in the same way as cows.

5. Following the examination and test, the diseased cows and reactors shall be dealt with as follows:

(a) Cows which in the opinion of the Inspector are affected with open tuberculosis and are distributing the germs of the disease through the milk, faeces or sputum, shall be sent to an abattoir under inspection, and there slaughtered as soon as conveniently can be done. When no such abattoir is within reasonable distance, the cows shall be slaughtered in the presence of the Inspector, who shall direct how the carcass shall be disposed of.

(b) Reactors to the test shall be separated from non-reactors as effectively as possible (suspicious animals shall be classed as reactors), and the owner shall be given the choice of disposing of them in one of the following ways:

(1) Immediate slaughter.

(2) Slaughter after they have been prepared for the block, by drying off and feeding.

(3) Retaining them in the herd, and selling no milk or cream until it has been pasteurized.

6. Compensation shall be paid to the owner of the herd for all cows slaughtered under these regulations upon the following basis:

(1) One-half the appraised value of the cow if destroyed as a case of open tuberculosis.

(2) One-third the appraised value of the cow if destroyed as a reactor at the request of the owner.

(3) Valuation shall be made by the Inspector, and shall not exceed the maximum valuation for cattle as specified in section 6 of the Act.

7. The salvage from the carcass shall be paid to the owner of the cow in addition to the compensation, provided compensation and salvage together amount to less than the appraised value; if more, the surplus shall be paid to the Receiver General.

8. No compensation shall be paid to the owner unless, in the opinion of the Minister, he assists as far as possible in the eradication of the disease by following the instructions of the Inspector as to disinfection, etc.

9. No milk or cream shall be sold from a herd containing reactors unless such milk and cream are properly pasteurized. The Inspectors of the municipality shall see that this provision is effectively carried out.

10. Tests and examinations of the herds shall be made whenever deemed necessary by the Veterinary Director General, and after each test and examination the herd shall be dealt with in the manner aforesaid.

11. All cows bought by the owner of a herd while under control, shall be submitted to the test and successfully pass it before being placed with the healthy cows.

12. When two successive tests fail to detect any reactors in a herd it shall be deemed healthy, and the Veterinary Inspector shall, when requested, give a certificate to that effect.

13. The existing regulations respecting tuberculosis, in so far as they may be inconsistent with the present regulations, are hereby repealed.

MONTHLY JOTTINGS

As announced in the June issue of the journal of the Royal Sanitary Institute, a Board of Examiners of this Institute has been appointed for Ontario, and examinations are to be held for Inspectors of Nuisances and Meat Inspectors. No one will question the usefulness of the Royal Sanitary Institute in training men and women to enforce sanitary law, and in disseminating sanitary knowledge. While it is gratifying to learn that the sanitary inspector of the future is to be better equipped to perform his important duties, there is the possibility that this new activity of the Royal Sanitary Institute will bring with it conditions that will be alike unsatisfactory to the public and the veterinary profession.

The announcement that examinations are to be held for meat inspectors, is a matter that requires to be carefully analyzed by the veterinary profession and by those responsible for veterinary education.

We believe that the men responsible for the introduction of the Royal Sanitary Institute into Ontario, are men of wide vision, and will avoid a repetition of the error that has made England's meat inspection system much inferior to that of continental countries and the colonies.

To become a meat inspector in England, it is necessary only to obtain a diploma from the Royal Sanitary Institute. The duration of the course to qualify for this diploma is so short that only a very superficial knowledge can be obtained. This course was established, it is claimed, to meet the demands of the Royal Commission on Tuberculosis; but in justice to this august body it must be stated that the Royal Commission with no uncertain voice made it clear that the services of the veterinarian are urgently needed if this disease is to be eradicated.

While the Sanitary Institute was making these preparations to supply meat inspectors for England, the Veterinary profession appears to have remained dormant, or were at least indifferent; for they did not demand the work to which they had most claim.

The result was that men with only superficial training were turned loose upon the public, or, as an English writer ex-

presses it, "Men alike dangerous to the butchers and consumers were appointed to fill these important positions."

Although these inspectors of the Institute were legally qualified to perform the duties of meat inspector, some municipalities recognized the necessity of securing the services of veterinarians, but in order to become legally qualified it was necessary for those men to be appointed inspectors by the Sanitary Institute before undertaking their work.

In other words, the veterinarian was not legally licensed to perform the work for which he was most competent, and to which he had best claims.

Fortunately these conditions do not prevail in Ontario, but it is due more to good fortune than to good management on the part of our veterinary profession that they do not.

Upon examination of our Ontario food laws one is surprised to find no mention of the veterinarian. The work which rightly belongs to the qualified members of this profession may be performed by a medical officer or sanitary inspector.

The following is the clause in the Ontario Health Act dealing with meat and food inspection:

99—(1) A medical officer of health or sanitary inspector may at all reasonable times inspect or examine any animal, carcass, meat, poultry, game, flesh, fish, fruit, vegetables, grain, bread, flour, milk, or other article, exposed for sale, or deposited in any place for the purpose of sale, or for preparation for sale, and intended for food for man; and if such article appears to him to be diseased, or unsound, or unwholesome, or unfit for food for man, he may seize and carry away the same, or cause it to be seized or carried away, in order that it may be destroyed or so disposed of as to prevent it from being exposed for sale or used for food for man."

Again in the section stating who shall be competent to perform the work which belongs mentally to the qualified veterinarian, we find as follows:

(105) "Such local boards (boards of public health) may employ one or more persons approved of by the medical officer of health, to inspect at such slaughter house or abattoir, or at such cattle yards or pens, all animals, carcasses and meat brought into the municipality and intended for food for man."

We believe that the majority of medical officers of health in Ontario recognize the importance of this work, and deem it advisable to appoint only graduates of recognized veterinary colleges to positions of this kind. Nevertheless we contend that the power to appoint men to fill these positions should be taken out of the hands of individuals, and that it should be explicitly stated in these laws, that only qualified veterinarians are permitted to undertake branches of Public Health work, in which veterinary science is involved.

This would be fair treatment to the veterinary profession, and would afford protection to the confiding public, both producer and consumer, against the inevitable results of incompetency.

It may be argued that meat inspection is only routine work, which can be performed by anyone after some little training. Any person holding this idea can safely disillusionize themselves.

If it were true of meat inspection, it is also true of the practice of any profession; and it would be as logical and reasonable to hand over the work of medical inspection of schools, or dentistry, to the sanitary inspector, as it would be to give the practice of meat and animal inspection to this official.

The practice of meat inspection is not a settled question; there is much research work yet to be done, and is this to be trusted to laymen whose knowledge of comparative pathology, bacteriology, histology and kindred subjects, is limited to say the least? In recent years veterinary public health work in Canada has received a great stimulus, and any measure that will place the work of the veterinarian in other hands will be detrimental to a growing profession and the public in general.

Members of the veterinary profession in Canada should throw aside the indifference of which they may be fairly accused, and realize that the veterinary officer of health has a function in public health administration no less important than that of the medical officer.

From his knowledge of the disease of animals, and their cause, no one is more capable than the veterinarian to assist in the safeguarding of man from the diseases of animal origin.

A recent writer remarks: "As a young and small profession, I fear we are not public spirited enough. We seem to be waiting for some good Samaritan to offer the hand which will raise us and keep us in an exalted position amongst the learned professions—a hand that never seems to appear."

JUST RECEIVED.

After some four years' work being carried on to ascertain if it might be possible to differentiate with some degree of accuracy between the tissue of so-called immature or bob-veal and that of market veal, the following conclusions have been arrived at and presented by Pierre A. Fish of the Department of Veterinary Physiology, New York State Veterinary College:

"The result of the digestion experiments with artificial gastric juice showed that, on the average, the digestibility of the bob veal and market veal was about the same and that both were digested to a slightly greater extent than beef.

"Decomposition of the tissue, as shown by the presence of ammonia, occurred first in almost every instance in the beef and last in the bob veal. Indol, another decomposition product, was of late occurrence in all of the tissues, but appeared first and more frequently in the bob veal and last or rarely in the beef.

"The freezing point, specific gravity and desiccation methods showed, on the average, a slightly greater percentage of water present in the tissues of the bob veal. All of these methods agreed in showing a line of differentiation in the middle of the four week bob veal period, and, as far as the amount of water present was concerned, that calves of three and four weeks of age were more closely allied with the mature calves than with those of the earlier age.

"That the tissues of bob veal should be rejected for food purposes because of the slightly greater percentage of water present is inconsistent with the practice of eating oysters and certain fish in which the percentage of water is still greater, nor is the antipathy to the young tissue of bob veal consistent with the practice of eating squabs, which, although a luxury, are born in a helpless and relatively immature condition as compared with the calf which from the time of birth is active enough to help itself in various ways.

"The dietetic experiments, including a total of seventy-five persons participating at one time or another in the investigation, showed no harmful physiologic effects from the bob veal when consumed as food and served in the ordinary manner. The fact that it was served to individuals ranging from two to seventy years of age without apparent injurious effects, indicates the wide range and diverse physical conditions subjected to the test. If the tender age of childhood and the failing tissues of old age remain unharmed then we may reasonably assume that the average vigorous adult may consume bob veal with impunity. In the one exception referred to in the text, the evidence is not clear that the bob veal alone was the cause of diarrhoea. That other or contributory causes were concerned is probable from the fact that the trouble did not recur on other occasions.

"The age limit of three weeks as provided by the Federal Government is high enough and should serve as a standard for uniformity in those states and municipalities which have laws upon the subject. The reduction of the age limit to two weeks may safely be recommended in view of the tests that have been made.

"In the absence of direct evidence of any harmful effect of the bob veal upon the human organism, there would seem to be no scientific reason why its sale as such may not be legalized. Its continued use as a legal food in certain foreign districts confirms the view of its harmlessness. A demand already exists among foreigners and with its lower cost its use may be expected to extend among those who cannot afford to purchase meat very frequently.

"In view of the evidence submitted and in spite of the closed markets, it would appear that much waste of a useful food might be avoided if farmers understood that there is evidence to show that healthy bob veal, when kept in as sanitary condition as other meat, causes no harm and when it is desired to kill a calf, at an early age, for economic reasons, its flesh may be consumed at their own tables."

An age limit of 21 days is provided by the Canadian Federal Government, and a four weeks' limit by the Ontario Provincial Government.—A. R. B. R.

ABSTRACTS FROM EXCHANGES.

Differentiating Tubercle Bacilli From the More Common Acid Test Forms.

To determine the presence of tubercle bacilli in milk and excreta from other acid-fast organisms, such as timothy grass bacillus, dung and butter bacillus, the writer proceeds as follows: "I make my films and smears in the usual way, care being taken to spread the material uniformly and thinly. They are then stained with hot carbol fuchsin, the films are then immersed in boiling water for two or two and a half minutes without being treated previously with any dissolving agents. The slides with films of timothy grass, dung, and butter bacillus thus treated are found to be decolorized, but the tubercle bacillus retains its stain even after two and a half minutes' immersion. In some of the slides I met an occasional tubercle bacillus even after boling three minutes. If a film treated in the same manner and boiled from two to two and a half minutes still shows stained bacilli, those may be safely put down as tubercle bacilli.—Vet. Rec.

Books and Bulletin Review.

The Public Health Veterinarian is frequently confronted with inquiries regarding the diseases, treatment, and care of poultry. The recent publication "Poultry Diseases and Their Treatment," by Dr. B. F. Knapp, contains much scientific and practical information. This little work is probably the most comprehensive yet presented upon this subject.

The report of the last annual meeting of the American Veterinary Medical Association can now be procured from the librarian of the Association, Dr. Frost, Ithaca, N. Y. Price, $3.00. The publication is a most interesting and valuable one for any member of either the medical or veterinary professions.

The following bulletins recently issued will be found of great interest:

"The Municipal Abattoir," Bulletin No. 173. Kentucky Agricultural Experiment Station of the State University, Lexington, Kentucky.

"The Intradermal Test for Tuberculosis in Cattle and Hogs." Bulletin No. 243. Agricultural Experiment Station, University of Californa, Berkeley, California.

The Sanitary Inspectors' Association of Western Canada

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MUNICIPAL MILK INSPECTION

Read by Mr. L. C. Bulmer, Dairy Inspector, City of Regina, before the Provincial Meeting of the Sanitary Inspectors' Association of Western Canada held in Moose Jaw, April 13th, 1914.

THE question of Milk Hygiene is one of the most important problems that all health authorities have to contend with.

Milk contains all the essentials of a perfect ration, viz.: proteids, carbohydrates, fats, inorganic salts and water. In addition to milk being one of our chief articles of diet, it is, of all food commodities, the most difficult to handle and keep free from serious contamination.

Milk is an excellent medium for the growth of many micro-organisms, both ordinary saprophytic varieties and those pathogenic to man. In milk, bacteria find their most congenial home, and an abundance of food, and they quickly establish themselves in such a medium.

For these reasons, milk invariably has an enormous bacterial content, varying from several hundred bacteria per cubic centimetre in the best class of milk, to hundreds of thousands and even millions of bacteria per cubic centimetre in the worst. Most of these organisms are saprophytes, but in some cases pathogenic organisms gain access, rendering the milk dangerous for consumption. A mass of evidence has been collected during recent years which shows that milk may receive from man the specific organisms of certain infectious diseases, and that these organisms may retain their vitality for a considerable period, and produce the disease in susceptible individuals drinking raw milk.

The three essentials in the production and handling of milk are *cleanliness, cold* and *speedy transportation* from the cow to the consumer, and the cow herself must be healthy.

For their observance a thorough system of municipal inspection is absolutely essential, and intelligence and care on the part of the dairyman and milk dealer are also necessary.

Classification of Milk.

For the purpose of municipal control milk should be classified into three distinct classes:

(1). Certified Milk.
(2). Inspected Milk.
(3). Pasteurized Milk.

The sale of all milk not coming under this classification should be prohibited. It should be necessary for a dairyman producing either certified or inspected milk to obtain a special license, while it should also be necessary for dairymen shipping milk to a milk depot or creamery for the purpose of pasteurization to obtain an official permit.

Class 1. *Certified Milk.*

Dr. Henry L. Coit originated the Certified Milk movement about the year 1893 in Essex County, New Jersey. The term "Certified Milk" was protected by United States copyright and the milk was produced under the control of a medical commission under the leadership of Dr. Coit. The movement was so successful that similar commissions were soon formed in New York and Philadelphia and since then throughout the States, while at present there are two such commissions in Canada.

It is most important that the indiscriminate use of the term "Certified Milk" be prohibited. The term should only be applied to milk produced under regulations laid down by a medical commission, or by qualified authorities, which should fulfill the most exacting requirements regarding the health and cleanliness of the cattle, the construction and cleanliness of dairy buildings, the care of milk from the time it leaves the cow until it reaches the consumer, the rapidity of handling the milk, and the health and habits of employees coming in contact with the milk. The dairies at which such milk is produced should be subjected to periodic inspection and the products of which should be subjected to frequent analysis. The cows producing such milk must be kept free from tuberculosis and all diseases likely to deteriorate the milk. Certified milk should be delivered within twelve hours from the time it is drawn and should not contain more than 10,000 bacteria per cubic centimetre.

There is always a certain demand for such milk in practically every city for the use of infants and invalids and for those who desire the use of only the best quality of milk, and who are willing to pay for the greater cost of production.

Inspected Milk.

It is necessary to provide for others desiring raw milk, a clean supply which can be furnished without involving unreasonable cost. It is essential, however, to have suitable regulations governing the production and handling of such milk. The milk should only be produced from periodically tested herds and the general health of the cattle should be frequently examined by a qualified veterinary surgeon. The dairy premises, where such milk is produced should be sanitary in all respects and strict regulations should be enforced regarding the handling and transportation of such milk. Inspected milk should be subjected to frequent analyses and a suitable bacterial count fixed for it from time to time.

Pasteurized Milk.

Pasteurized milk includes the largest proportion of milk which is at the present time furnished for human consumption. This supply is more or less of doubtful purity and it is, therefore, unsafe to consume it in the raw state. If we removed pasteurized milk from a city's supply it would result in the increased price of all milk and thus place this important article of diet beyond the reach of the poorer classes. It is essential, therefore, to render this milk of doubtful quality safe for human consumption, and this is best done by means of efficient pasteurization under official supervision.

Pasteurization, however, cannot atone for filth and the process is certainly not intended for the purpose of purifying dirty milk. It is of great importance, in order to obtain efficient pasteurization to have a reasonably clean supply of milk to commence with. It should be necessary, therefore, for all farms producing milk for pasteurization to comply with certain regulations regarding the construction and equipment of dairy buildings and method of handling milk.

The object of pasteurization is twofold: Firstly to prevent the distribution of pathogenic organisms. Secondly to allow the wholesale dealers to handle mixed milk in a satisfactory manner and place a uniform supply on the market.

The object of all health authorities, therefore, must be to enforce a system of pasteurization that will accomplish the two points mentioned with the minimum amount of physical and chemical change in the milk.

It has recently been demonstrated, according to the most eminent authorities, and contrary to the views held at one time by many medical men, that by holding milk at a comparatively low temperature for a definite period, it is posisble to destroy all pathogenic organisms that may occasionally be present in the milk, without altering the nutritive value of the milk to any appreciable extent. Of the pathogenic organisms occuring in milk the Tubercle Baccillus is the most difficult to destroy and it has been demonstrated by many investigators that this specific organism is rendered inert at a temperature of 145 degrees Fahrenheit for 30 minutes. It has also been demonstrated that at this temperature practically no chemical or physical change takes place in the milk.

There are three systems of pasteurization, viz:

(1). The flash or continuous method.
(2). The holding method.
(3). Pasteurization in the bottle.

The most efficient pasteurization, as already stated, is brought about by applying a temperature of 145 degrees Fahrenheit for 30 minutes and immediately cooling to a temperature of 45 degrees Fahrenheit. The flash system of pasteurization of milk for direct consumption is totally inefficient and should be abolished. The great difficulty that has to be contended with in pasteurization is the danger of re-contamination after the process is completed and the only way in which this disadvantage may be overcome is to pasteurize in the bottle. Excellent machines are at present on the market for the purpose of commercial pasteurization in the bottle, and to-day it is an acknowledged fact that this process is as practical and economical as any other method.

Improper pasteurization is far worse than none at all and the process should be kept under close superivision. All pasteurizers should be equipped with automatic controllers and thermal recorders, the charts of which should be filed daily in the Health Department. Pasteurized milk should be delivered within 24 hours to the consumer and no milk should be pasteurized more than once.

Analysis of Milk.

All milk should be subjected periodically to chemical analysis, bacteriological examination, while sedimentation tests should be made frequently.

Chemical Analysis of Milk.

All milk retailed or shipped into a city should be subjected to chemical analysis at least once a month. For all practical purposes it is sufficient to estimate the content of butter fat and total solids. Occasionally, however, and especially during the summer months milk should be examined for the presence of preservatives. Sight should not be lost of the fact that occasionally thickening and coloring matter are added to milk and cream in order to give it a richer appearance.

Bacteriological Examination.

The most reliable method of ascertaining the conditions under which milk is produced both as regards contamination and cooling of milk is to subject it to frequent bacterial counts. Improper milking, open and dirty milk pans, improper cooling, delivery and all dirty and improper methods in the production and handling of the milk will manifest themselves in the milk by way of a high bacterial count.

Fermentation tests are exceedingly useful in estimating the wholesomeness of milk. Gassy fermentation indicates the presence of gas producing organisms, of which the chief one found in milk is B-coli-communis. The natural habitat of this organism is in the intestines of animals, hence milk will undergo fermentation in proportion to the amount of dirt it contains.

Sedimentation Tests.

This is an exceedingly simple and effective test which indicates the amount of visible sediment present in the milk. One pint of milk is pumped through a sediment tester containing a cotton filter. The filtrate of dirty and unstrained milk will consist of manure, flies, hair, straw, etc. If this is sent to the dairyman it will never fail to impress him and will result usually in his immediately adopting cleaner methods.

Sediment tests are of course not always a criterion as to the purity of the milk. Large quantities of dirt may have gained access to the milk setting up serious bacterial activities and yet if this milk had been strained by the dairyman before shipping the sediment test would indicate that the milk was wholesome. However, sediment tests are very useful in many cases and are to be recommended in milk inspection.

Score Cards.

In inspecting both dairy farms and milk depots and creameries it is necessary to have some system and there is not a more reliable method than that of the Score Card in the hands of an experienced inspector. Score cards for the purpose of scoring dairy premises have been adopted by all large cities in the States and throughout Canada. It is best to fix a maximum score of say 100 points, points being allowed for the construction and equipment of dairy premises, methods of handling the milk, health and general condition of the cattle, the method of delivery and the cleanliness and habits of the employees. The score card may occasionally be unreliable because often a bacterial count of the milk from the same dairy on two successive days shows a difference of tens and even hundreds of thousands. In such cases it is not the score

card nor the premises at fault but the dairyman and his employees handling the milk. This difficulty may be overcome to some extent by allowing a large number of points for the bacterial count and the points should be allowed on the results of several different counts made over a definite period.

Milk Contests and Publicity.

Milk contests are a most valuable agency in securing a clean city milk supply. Suitable prizes such as gold medals and watches should be awarded annually or half yearly to the dairyman who has the best score card for his premises and methods and who has placed the cleanest supply of milk on the market.

Milk contests produce great enthusiasm among dairymen. More interest is taken in the work and results are shown far quicker.

All results of dairy score cards and milk analysis should be open for public inspection and should be advertised monthly in the Health Bulletin, and the local press. A dairyman hates to be beaten publicly by his neighbor and he will consequently strive harder to produce better results.

Duties of a Dairy Inspector.

The duties of a Dairy Inspector may be divided into two branches.

(1). Inspection of Dairy Farms.

(2). Inspection of Milk Depots or Creameries and the milk retailed in the City.

A qualified Dairy Inspector requires a knowledge not only of the conditions under which milk should be produced but also a knowledge of cattle, their selection, their feeding, their general management, and their disease. He must also possess a good knowledge of bacteriology and chemistry, especially the branches of these subjects bearing on milk and milk products, and on water, and also a practical acquaintance with the methods of analysing these substances.

It is also essential for a dairy inspector to possess a thorough practical and scientific knowledge of creamery work in all its branches, especially the processes of pasteurizing and homogenizing, and also butter making and ice cream making.

Educational campaigns among the dairymen cannot be too highly estimated. The dairy inspector should call meetings for dairymen from time to time to discuss any new regulations or topics of interest. He should give illustrated lectures on dairy subjects in convenient places where all the dairymen may attend, and occasionally hold milk exhibits on milk hygiene. Literature on dairy topics should also be prepared and distributed among the dairymen. A great deal of the dirty milk on the markets of every city is the result of ignorance on the part of the farmer, and a proper system of education in the elements of the production of clean milk will go a long way towards securing for a city a cleaner supply of milk.

Last but not least a dairy inspector requires to be tactful. Farmers as a class are exceedingly stubborn in their ideas and the use of a little persuasion will always outway stern authority.

The objects of the Association shall be: to further the advancement of Sanitary Science in its various branches and to disseminate knowledge relating thereto by any means which may seem desirable to its members; to raise the status of the profession of a Sanitary Inspector by endeavoring to secure that all persons appointed as Sanitary Inspectors, Meat, Food and Dairy Inspectors, Infectious Disease Inspectors, Visiting Nurses, or other similar positions in Health Departments shall be properly qualified for such positions by reason of having passed a qualifying examination in some branch of Sanitary Science, and to promote legislation with that object; to promote classes, schools of instruction, lectures or demonstrations in the various branches of Sanitary Science for the improvement of its members and more particularly its Associate Members in order that they may be able to qualify for full membership; to supply information regarding applicants for positions as Sanitary Inspectors to Municipal and other bodies; to study legislation regarding Sanitary matters, and, if found desirable, to recommend amendments to Health Statutes or By-laws.

Persons desirous of becoming Associate Members shall be those who whilst not possessing certificates as defined in the preceding clause are engaged in active work as Sanitary Officers holding public appointments, or those studying Sanitary pointments.

Our Food

SOLVING THE MILK PROBLEM

MILK POWDERS, THEIR MAKING, USES AND MERIT

By J. C. K.

THE problem of supplying clean, wholesome and sanitary milk to the public is one that occupies to a very large extent the attention of medical health officers and others entrusted with the conservation of public health, for milk is a notable medium for the development and dissemination of the germs of tuberculosis, typhoid, diptheria, and scarlet fever. So great is the menace of impregnated milk that in practically every progressive civilized country legislation has been enacted to safeguard the milk supply. In Canada legislation of this character is very general, there being federal, provincial and municipal regulations designed to protect both the source of supply and the supply itself through every stage of production and consumption.

In this article The Public Health Journal proposes to speak at some length of a commercial solution of the milk problem—a solution at once practical and of widespread utility; namely, the conversion of liquid milk, with its tendency to breed and carry disease germs, into a bacteria-less milk powder.

It will be found both convenient and helpful in dealing with the subject in hand to refer to proprietary milk powders, and for the purposes of illustration, the preparations of the Company known as Canada Milk Products Limited have been selected.

Milk Powder Something New.

Milk powder, let it be said, is a comparatively recent idea, an evolution of the condensed milk idea, though the processes of preparation differ radically from those employed in the making of condensed milk. The makers of milk powders claim for this product an intrinsic superiority over condensed milk, pointing out that in the manufacture of condensed milk, where a temperature of at least 240 degrees Fahrenheit is required to destroy the bacteria and spores, the albumen in the milk is coagulated, the enzymes are destroyed and the calcium salts rendered insoluble and unassimilable. None of these short-comings or disadvantages, it is claimed, attach to the preparation of milk powders.

How Milk Powder is Made.

The following account of the process of manufacturing milk powder as carried on by Canada Milk Products will be found interesting.

The raw milk is obtained from inspected farms. The milk is cooled by the farmer immediately upon being drawn from the cows, and is brought to the factories of the Company in first-class condition.

Here the milk is tested for richness of butter fat and for acidity.

The milk is first pasteurized to prevent a possibility of its containing bacilli or organisms. It is then filtered to remove any dirt or foreign substances which may by some mischance have found their way in.

The next process is the concentration of the milk at a low temperature, under vacuum, in a large vacuum pan having a capacity of more than 1,500 gallons.

The concentrated milk is then sprayed into a current of heated, filtered air in a spray so fine as to become fog or vapor within a foot or two of the end of the spray head. This divides the milk into exceedingly small particles, providing an enormous evaporating surface, which causes the moisture remaining in the milk to be evaporated almost instantaneously. It has been calculated that the fineness of the division of the milk is such as to provide about two acres of surface for each pound of concentrated milk sprayed into these drying chambers! The evaporation

is so rapid that the latent heat necessary to change the moisture in the milk from liquid form to vapor is taken both from the surrounding hot air and from the solid content of the particles of milk . The practical and somewhat paradoxical result of this evaporating operation is the cooling of the milk when it is sprayed into the current of heated air; also the milk has been converted into a powder.

The milk powder made in this way is collected and sifted to prevent the possible presence of lumps. It is then packed into sanitary containers.

For large bulk use—by bakers for example—the powder is packed in barrels containing two linings of corrugated parafine-saturated air-proof paper. It is also put up in tin boxes holding 50 lbs., and in smaller tins for domestic use.

Varieties of Milk Powder.

The milk powders prepared by Canadian Milk Products are of four descriptions, namely:

A full cream milk powder, in which none of the butter fat is removed from the milk and in which nearly 30 per cent. of the dry powder is butter fat.

Skim milk powder, made from separated milk.

Modified milk powder, in which a split proteid modification has been made, for infant food; and a

Sweet whey powder, made from unfermented whey, also used for infant feeding and for dietetic purposes.

In the manufacture of full cream powder the milk is standardized to bring the butter fat content up to the standard, in case the mixed milk should be below the standard.

In the manufacture of skim milk powder the by-product cream, is immediately pasteurized and cooled and used either for making the company's "Champion" butter or for shipping in liquid form to large distributors.

The Uses of Milk Powder.

The full cream powder made by Canada Milk Products is known by the name or brand, "Trumilk," and is used very largely in the making of high grade confectionery, particularly of milk chocolate. The skim milk powder is known as "Milkstock," and is used by almost every baker in the Dominion of Canada. It gives all the advantages of liquid milk at a somewhat lower cost, with greater convenience and in a much more sanitary condition than liquid milk can possibly be obtained in. Where the product made by the baker requires fat, butter can be added by him to his ingredients.

"Milkstock" is generally used in dry form, being mixed with the flour and other constitutents, just as taken from the container. "Milkstock" is also used to a very considerable extent for domestic purposes, in construction and mining camps, and for all purposes in which condensed milk was used as a general thing prior to the advent of milk powder.

However, notwithstanding the wide and large use of milk powder in Canada, a much more extensive use is possible, and to make milk powder popular as an article for use in the home, Canada Milk Products intends shortly to inaugurate a publicity campaign, using as a name for the product "Klim," which, it will be perceived, is "milk" spelled backwards.

Modified milk and sweet whey powder are used principally for infant feeding, and the company states that it knows of hundreds of recent cases where infants whose lives were despaired of have been successfully restored to health. The company further states that it has never known an instance of a normal infant intelligently fed on these products that has not thrived; and that in very numerous cases infants whose digestive organs were greatly impaired by improper foods have been restored to health.

Skim milk powders and whey powders will preserve all their qualities unimpaired indefinitely, and may be kept for any desired period. "Trumilk" and "Modified Milk" powders contain a considerable amount of butter fat and should be used within a few months of manufacture, as after a time there is danger of their becoming rancid.

When the original container has been opened the powders are apt to absorb moisture from the air, and, in the case of powders containing butter fat, this increases the tendency to rancidity. Powders containing butter fat will manifestly keep better at a low temperature, and will keep for an indefinite period if put in cold storage. Instances are numerous of butter

fat powders kept for three years in cold storage remaining perfectly good.

In the case of skim milk powders, if left for a certain number of months with a high moisture content, the powder is apt to cake into lumps. These lumps must be broken up with a rolling pin or otherwise before the powder can be used, but its value for cooking purposes remains unimpaired.

Asked by a representative of The Public Health Journal regarding the merits of one maker's milk powders in comparison with other milk powders, Mr. Benjamin A. Gould, the president and general manager of Canada Milk Products, said:

"The reasons why we believe our milk powders to be superior to other powders are: First, the flavor of the milk is practically unchanged, being exactly the same as that of the pasteurized milk from which they are made; and, second, our powders, being dried at a low temperature, have none of their constituents injured in any way, the milk albumen being uncoagulated and the enzymes undestroyed. As a result, our powders will go into complete solution and will remain in solution as long as in the case of the original milk. This is due to the spraying process, a patented process which we control in Canada. Milk powders made by other processes are not so soluble, and consequently there is a considerable precipitation. Briefly put, evidences of superiority are to be found in flavor, smell, solubility and keeping qualities."

Restaurants, hotels, hospitals and public institutions are beginning to use milk powders, especially "Milkstock," in considerable quantities, and their use in private families is rapidly increasing. Mr. Gould believes that the time is coming when milk powders will replace ordinary milk almost altogether in the homes of the people, excepting only the small amount required for drinking purposes and for use in tea and coffee. Whether he or she knows it or not, nearly every householder in Toronto is even now using milk powder in the bread, biscuits and cakes consumed in the home, since nearly every baker in Toronto is using "Milkstock" in his business. For drinking purposes and for use in tea and coffee, reconstituted milk is not recommended, chiefly on account of the flavor.

To reconstitute the powder into liquid milk the powder should be placed on the top of the water and beaten in with a whip or egg beater. It goes rapidly into complete solution, even in cold water.

Modified milk for infant feeding is reconstituted with a good sterile water, and is fed in the usual way from the bottle at blood heat, the proportion of milk powder varying according to the age and strength of the infant. The directions on the containers indicate the usual strength for children of different ages, but this may require variation in some cases to suit the strength or needs of the child.

Modified milk powder and sweet whey powder are sold by druggists, and "Trumilk" and "Milkstock" by grocers. The retail price of "Milkstock" is 25c. a lb., which is equivalent to 5 cents a quart for liquid milk. It is put out in half-pound tins. When put on the market under the name "Klim," there will be a special 5½ oz. tin to retail at 10 cents, and a pound tin to sell at 25c.

Milk powders are being largely bought in communities where there is a shortage of fresh liquid milk—in the prairie Provinces for example, in lumber, mining and construction camps, and in expeditions on land and sea, and on ships. The United States navy uses large quantities of the milk powder made by the Merrill-Soule Company of Syracuse, who developed the process and who are closely affiliated with Canadian Milk Products, Ltd.

Canadian Milk Products, Ltd., has been engaged in the manufacture of milk powders for the last ten years, being the pioneers of this industry in Canada. It has two plants, one at Brownsville, Oxford County, the other at Belmont, Middlesex County—both being in the centre of what is generally conceded to be the best dairy district in Ontario.

The factories at these two places have a capacity for handling nearly 150,000 lbs. of liquid milk a day, the equivalent of 15,000 imperial gallons. A gallon makes approximately one pound of milk powder.

Extraordinary pains are taken to keep everything in and about the factories scrupulously clean, whether or not it comes into actual contact with the milk, fully half of the time of employees being taken up in the performance of labors having this end in view.

Forecast and Review

PAISLEY SPECIAL CLASSES SCHOOL FOR PHYSICIALLY AND MENTALLY DEFECTIVE CHILDREN

By A. GILMOUR, M.D., M.R.C.P., Edin., D.P.H., School Medical Officer, Paisley Burgh.

Reprinted from the Medical Officer.

AT the present time when the subject of school construction is being carefully revised, a description of a special school for physically and mentally defective children requires no apology. The institution of medical inspection of school children and the reports of school medical officers have fully confirmed the verdict of those more advanced authorities who have been quietly working in the direction of special schools for special purposes and the formation of schools for physically and mentally defective children has followed by further specialization in open-air day and residential schools, open-air recovery schools and schools for children with tuberculosis or skin diseases. The introduction of such schools into any area is governed as much by finance as by the number of children requiring special provision. In large towns the numbers justify separate establishments, but in small towns the cost of separate sites, buildings, conveyances and administration is prohibitive. The following description of the Special Classes School, Paisley, will show how some of these difficulties have been surmounted in a town with some 16,000 scholars.

In September, 1907, special classes for physically and mentally defective children were formed by the Paisley (Burgh) School Board. Accommodation was provided in the class rooms and gymnasium of the Abercorn Public school, but owing to the rapid increase in the number of scholars, a special school become absolutely necessary. The original specifications for architects were briefly as follows: The school was to be plain and substantial, and the total inclusive cost was not to exceed £30 per scholar.

The school is to be two storeys in height, with 14 feet ceilings.

The following approximate class room accommodation is indicated, but architects are expected to utilize all available space to the best advantage:—

Ground Floor.

Physically defective children. Eight class rooms, at 18 square feet per pupil, each to accommodate 20 pupils—total, 160 pupils.

First Floor.

Mentally defective children. Eight class rooms, at 15 square feet per pupil, each to accommodate 20 pupils—total, 160 pupils.

A central hall divided by movable partition, to dine approximately 160 pupils in one part, the other part for the remaining 160 pupils to play in.

The class rooms are to be divided by movable partitions of wood and glass; windows to be large, with broad sills; wall space throughout the buildings to be utilized to best advantage for press accommodation; four cloak rooms to be suitably placed; three bathrooms, two down and one upstairs; a workroom; a doctor's room; a nurse's room; a teacher's room; two rooms for assistant teachers, one on each flat, each with a lavatory; four emergency double water closets, two on ground floor and two upstairs; kitchen and scullery, the former communicating with the dining hall; school laundry.

External Buildings.

Play sheds, lavatories and water closets adjoining main building and approached by a covered way, and heated in winter; digging and garden plots; drainage system to be shown on plan; garage; suitable entry for motor car, for reception and despatch of children under school roof; separate playgrounds for boys and girls.

Natural system of ventilation to be adopted; heating to be effected by means of hot water pipes and radiators in class rooms, halls and latrines.

All the water, gas and other pipes throughout the building are to be exposed.

The competitive plans were submitted in May, 1910, and those prepared by Messrs. Craig, Barr & Cook, architects, Paisley, were accepted. The school was ready for occupation by September, 1912. A study of the ground plan will show how admirably the requirements have been met. The class rooms on the ground floor are used entirely for physically defective scholars, and graded slopes replace steps on this floor. The class rooms and emergency water closets are duplicated on the first floor for the use of mentally defectives, and accommodation for assistant teachers, extra bathrooms and cleaners' rooms occupy the landings on each side between the storeys.

Separate covered entrances for the children of each division allow them to enter and leave the school ambulances under cover. The cloak rooms for boys and girls are arranged on each side of the entrances, and each child has a special numbered peg. The walls of the halls and passages are tiled in grey to a height of 4½ feet. Four playgrounds with sheds, lavatories and offices are provided for the children. The greater part of each playground is covered with granolithic, but portions have been set aside in each section for instructing pupils in practical gardening, and the vegetables used in the kitchen of the school are grown therein. The cloak rooms, play sheds and offices are all heated.

The kitchen, storerooms and a small laundry for pupils are situated at the rear of the building and require no special description. The cooking is entirely by gas, and the milk is sterilized in Aymard's milk sterilizer. The ordinary labor saving devices for peeling potatoes, cutting bread, etc., have been introduced. Two meals are served daily—the first at 10.15 a.m. (as soon as the scholars have arrived at the school) of milk, bread, butter and biscuit; the second at 12.30 p.m.. At this second meal, soup, meat and vegetables, or soup and pudding, are provided in suitable variety and in unrestricted quantity. The children pay 8d. per week for these meals, and the meals of necessitous children are paid for out of a special fund.

A description of special features may be given in greater detail.

Heating.

This is on the Reck system, which has been found both efficient and economical. In the ordinary gravity hot water system the circulation is obtained by the difference in pressure resulting from the difference in temperature between the flow and return water. An expansion tank (in which the surplus water from expansion on heating is received) is connected with the system above the highest radiators. Briefly, in the Reck apparatus a circulator is inserted a few feet lower than the level of the expansion tank on the main return pipe from the radiator system. In this circulator a jet of low-pressure steam mixes with the water, raising the temperature and consequently increasing the pressure and rapidity of the circulation.

The Reck system therefore consists of a low pressure hot water heating apparatus, in which the water is heated and the circulation is produced by low pressure steam. The introduction of this steam jet is stated to make the pressure 16 times as great as with gravity only. Advantage is taken of this increased pressure to reduce the size of the pipes and to increase the power of the circulation. By reducing the size of the pipes there is less disfigurement internally by pipes and radiators, the volume of water is materially reduced and fuel is economized, and the initial cost of apparatus is less. With the more powerful circulation the heating is produced more rapidly and at greater distances, and the levels and the gradients for pipes may be disregarded. The regulation of the heat in the rooms is

easily effected by valves to each radiator and little attention is required by the boilers. The Reck system was installed by Messrs. James Boyd & Sons, Paisley and London.

Ventilation.

The ventilation is "natural" throughout the school. Each window is provided with an upper and lower movable sash and an upper fanlight reaching to the ceiling. When the lower sash is raised a glass "wind baffle" can be used if desired to prevent the wind impinging directly on the scholars. Even if all the windows were shut a free circulation of air is obtained from ventliators opening behind the radiators. Objection might be taken to the fact that, as in all central hall schools, there was no cross ventilation, but the size of the class rooms, the limitation of the number of scholars, the shorter hours and more frequent intervals in special schools must be remembered. The school has been visited at all hours and no objection can be raised.

Class Rooms and Furnishings.

The floors of the classes are on one level, and the junction with the walls are rounded throughout the school. Single movable desks and chairs are used in all rooms, the smaller chairs being provided with arm rests and adjustable spinal supports. Each desk has a small locker so that books, pencils, etc., can be kept apart. Ample natural left hand lighting is obtained in all class rooms, and the school is lighted by electricity. The movable partitions between the class rooms enable the rooms to be thrown into larger rooms should this be desired for special purposes.

Sanitary Arrangements.

In the lavatories shallow basins are supplied by running water, and a sufficiency of soap and towels is provided. Graded pedestal water closets of the wash-out pattern, each with its own flush, and suitable urinal accommodation have been placed in each section. All unnecessary woodwork is dispensed with.

The drinking fountains in the playgrounds are of the "Purita" type—a patent by Messrs. Shanks, Barrhead, which dispenses with the drinking cup. On pressing a circular plated ring (which prevents the child placing its mouth to the pipe as well as protecting from injury by blows) a bubbling stream of water springs from the pipe and falls back into a glazed earthenware receiver.

Inside the school four plunge baths, fitted with hot and cold water and with spray attachment, enable bathing of children to be carried out.

Open Air Class Rooms.

A large open-air class room was erected in the playground and has been in constant use summer and winter. Each side of the shed can be closed by a movable partition of glass and wood, so that the children are protected from the prevailing winds. The children wear overgarments and hats in the winter weather. The cost of this class room, which is substantially built, was £180. In addition, however, two of the class rooms within the school are used for younger children who would benefit by open-air methods, and the windows are kept widely open.

Rooms suitable for the teaching and medical staffs, and a small properly-equipped surgery with tiled walls and Terrazzo flooring, have been provided. Excellent lighting and copious supplies of hot and cold water complete the department.

The school under the present conditions is made to combine the purposes of a school for mentally and physically defective children, an open-air school for tuberculous children, and a recovery school. The children in the mental and physical departments are easily kept apart, and the number of tuberculous and phthisical children is large enough to allow of three distinct classes at different educational stages in three separate "open-air" class rooms, leaving six class rooms for the remainder of the physically defective.

The building has been found to be admirable in every way. A central hall possesses great advantages in this type of school, and the disadvantages have been proved to be mainly theoretical. One improvement would be the substitution of spray baths for two of the plunge baths, and the installation of some simple apparatus for destroying vermin in clothing. The children usually come from the worst (and dirtiest) families in the social scale.

The following points may be useful to authorities who may be considering the formation of special schools. The school should be under the close supervision of the medical officer, for the scholastic work should be subservient to the physical condition of the scholars. The medical officer should be responsible for the admission, transfer or exemption of all scholars, and should decide the mode of conveyance of the children to and from school. Suitable cases can be brought to the notice of the medical officer by head teachers in ordinary public schools or by attendance officers.

Choice of Site of School.

The tendency at present is to seek pure atmosphere, and to place such schools on the outskirts of the town. This, however, adds to the difficulty and expense of conveying children from and to their homes, and the choice of site depends as much on means of transit as on atmosphere. In many special schools practically all scholars are conveyed by ambulances. As each ambulance only holds about 30 scholars, it will be obvious that several ambulances making runs to different sections of the town will be necessary. Two horse ambulances (the first method of conveyance in Paisley) cost £90 each, while hire of horses amounted to £200 per annum. One motor ambulance, costing originally £450, and £250 per annum for upkeep, chauffeur's wages, etc., was substituted and found to be quicker. The distance travelled daily by motor is 30—36 miles, each run occupying 30—40 minutes. A second motor would be absolutely necessary had the main tramcar lines not passed the door of the school, and the Paisley District Tramways Company has kindly placed special cars running to schedule time-table in the morning and afternoon on the different routes of the town. Special lady guides travel with the cars and assist the children to enter and leave, and issue tram tokens. The school nurse travels with the motor ambulance. In Paisley, 40 per cent. travel by ambulance, 50 per cent. by tramcar and 10 per cent. walk.

It might be stated that children are conveyed by tramcar from the neighboring towns of Johnstone and Barrhead (distances of 3—4 miles in each case), while those from Renfrew, Yorker and Scotstoun (2—4 miles), having to cross the river Clyde by ferry, travel by special motor ambulance; cost of motor £620, upkeep £3 10s. per week. The careful consideration of site from expense of conveyance will be obvious.

Medical Supervision in School.

The children being all abnormal require much detailed medical examination and supervision. The records of the cases are of great medical and educational interest, and as the ordinary scholars record card is quite inadequate in size the best method of keeping records is in some form of "loose leaf ledger." Each school medical officer can design a form to suit his own purposes, but a complete personal family and social history, periodic examination and medical and educational progress notes, should be kept. The school nurse carries out weighing, etc., in special cases four times per annum.

The head teacher has access to this book for the purpose of entering educational progress. These notes have been kept for four years in Paisley, and it is found that for satisfactory medical supervision the school medical officer requires to give at least one school-day per week to the work.

In conclusion it might be stated that while no "sleep" interval is allowed for during the routine school work, couches and deck chairs are provided for those who seem exhausted. Very few, even in the "baby" class, however, appear, fatigued. The school hours are short and may be briefly summarized as two hours school, one hour recreation (half dinner, half play), and two hours school—the afternoon school being chiefly of the nature of handwork, drill, singing. The drill exercises are regulated by the school medical officer.

CAFFEIN IN COCA-COLA

The modern conception of the physician is vastly different from what it once was. Nowadays the duty of keeping people well is held to be more important than curing them when sick.

This attitude entails the necessity for exercising a much closer supervision of the life and habits of those people to whom

the physician stands in this relation, and his advice upon such matters as clothing, eating and drinking and personal hygiene is highly respected—even if not always followed.

Such being the case, there must be a number of physicians who are asked for their opinion of Coco-Cola. The controversy which has been stirred up over this popular summer beverage is of great interest to the whole medical profession.

Coca-Cola has had to pay the price of unusual success and undergo several illogical attacks. It has been called poisonous, its chief constituents were said to be alcohol and cocaine—it was spoken of as dangerous and habit-forming in its effect. These contentions have all been met and refuted, and, casting about for another peg to hang an argument upon, the subject of caffein has now been brought up. Caffein, as all physicians know, is the active principal that gives to tea and coffee the beneficial, fatigue-relieving and refreshing qualities that have established them in almost universal use for thousands of years.

Coco-Cola is composed of nothing but pure water, refined sugar, fruit flavor and a minute quantity of caffein—less caffein to a glass than is contained in a cup of either tea or coffee.

The physiological action of caffein has been closely studied and the most exhaustive tests carried out upon human subjects for the purpose of discovering exactly what effect it has upon the organism. The general conclusions arrived at by the investigators, men of sound standing and international repute, can be condensed into two brief statements, viz.:

1st. The general effect of caffein upon the mental and motor processes is one of stimulation. Increased capacity for work is plainly demonstrated.

2nd. In none of the experiments is there any indication of secondary depression.

THE ITINERANT QUACK

The man who comes to the small town with a cheap stock of shoddy clothes, rents a store for a few days or weeks, and by means of flamboyant advertising disposes of his worthless goods to the "suckers" of the locality is looked on by reputable business men as a detriment to the community. Decent men of the town recognize that while the owner of the store rented and the proprietor of the local newspaper may make a little money out of the visit of the fly-by-night merchant, the town as a whole is the worse for his visit. So generally is this admitted that most towns and villages impose a heavy tax on undesirable citizens of this type.

The itinerant quack bears the same relation to the community as the transient clothing store proprietor, with this difference: while in the one case the unsophisticated are relieved of their money without getting value received, in the other, they also run the risk of losing their health as well. The business men of country towns, however, do not so easily recognize the harm that the travelling doctor does as the damage that the travelling merchant causes. One reason for this is, of course, the fact that the travelling quack is not a competitor of the local business man. Should the local physicians protest, their objections are discounted on the ground that it is a case of "professional jealousy." Rural towns, however, are gradually waking up to the fact that the visit of the itinerant doctor is just as much a calamity as the visit of the itinerant merchant. And, naturally enough, the editors of the country newspapers are among the first to call public attention to this fact. We say naturally because the men editing the country newspapers are, as a class, among the leaders of thought in their communities. From a selfish point of view, the local newspapers might be expected to be the last ones to have anything detrimental to say about the class that brings in a handsome advertising revenue.

The New Teller is published at York, Neb. It received an offer of an advertisement from a Dr. A. A. Potterf, of Kansas City, who was going to pay a visit to York in the hope, doubtless, of catching some persons who think that their home physicians know less than travelling quacks. Of course the editor did not know that Dr. A. A. Potterf was a graduate of a low-grade homeopathic school that is now out of existence; that while the doctor has been practising medicine for a quarter of

a century, he is so little known in his home town that reputable physicians of Kansas City have never heard of him; that in spite of his alleged qualifications, he is not a member of the country or state medical societies. The editor of the New Teller did not know, and could not be expected to know, these things; but he did know that physicians who are above the average in knowledge and skill do not go quacking it around the country. Knowing this the New Teller published the following open letter on the front page of its issue of July 30. It is worth reading:

"Dear Doctor.—Your ad. copy and express money order received. We regret very much that you contemplate another visit to York in the near future. We regret just as much not being able to keep the money order—it looks good to us. However, the New Teller has managed to struggle along several months without any such advertisements. We are mercenary enough to indulge in the hope that you will file your certificate with the county clerk, and pay the small fee required by the law, though this little matter is as a rule neglected by the travelling fraternity of your calling.

"Owing you no personal enmity, we can't help expressing the wish that the city of York might find some way to benefit by your stay in this city to the extent of at least fifty dollars a day. Not so long ago, an itinerant pedler might rent store room in York, put in a cheap stock of overalls, gilt watches and in the course of ten days wind up with an auction sale. This proceeding would now cost him too much.

"You may be a good doctor—a most excellent doctor. As such you might build up a lucrative practice in Kansas City and be saved the toils and hardships incident to constant travelling. (A delightful piece of gentle sarcasm.—Ed.) There are already many good doctors in York—plenty, in fact. As they make their homes here, the people have a fair chance to judge them. The people don't have a fair opportunity to become acquainted with you. We believe this community would be as well off without the visits of 'United Doctors,' 'Doctor Specialists,' and the like, and have said so in a variety of ways. We believe the person with defective eyesight should consult an oculist, rather than patronize a spectacle peddler. If peddlers we must have, let them aid materially in cutting down the heavy burden of the taxpayers.

Very respectfully,
THE NEW TELLER.

"The above letter also applies to 'The Old Reliable State Medical Institute' of Omaha, which forwards ad. copy under date of July 29, announcing a three days' visit to York. The Institute may be old and it may be reliable. It may be several other things. It should be remembered that a quack doctor is more dangerous and vastly more expensive than patent medicines. The public is now protected to a certain extent against the latter."

Could the facts be stated more simply or more accurately? A letter like this makes the readers of the newspaper think, and quackery cannot thrive among people who think! Some day it will dawn on the public generally that the doctor who can treat any kind of ailment a little better than the general run of doctors does not need to spend money advertising that fact, nor is it necessary for him to assume "the toils and hardships incident to constant travelling!"